

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,892,900

CLAIM LANGUAGE		CLAIM OF INFRINGEMENT
155.	Products infringing: Any product using Microsoft Product Activation or Reader Activation feature.	
A virtual distribution environment comprising		
(a) a first host processing environment comprising	computer running a Microsoft product containing the Product Activation feature, including Windows XP, Office XP, Visio 2002. Reader using its activation feature.	
(1) a central processing unit;	CPU of computer	
(2) main memory operatively connected to said central processing unit;	main memory of computer	
(3) mass storage operatively connected to said central processing unit and said main memory;	hard disk or other mass storage contained in computer	
(b) said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	Microsoft Product Activation software	
(1) machine check programming which derives information from one or more aspects of said host processing environment,	Product Activation software generates hardware information relating to the host processing environment as part of the activation process	
(2) one or more storage locations storing said information;	hardware information is stored in the computer's storage	
(3) integrity programming which		
(i) causes said machine check programming to derive said information,	each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware	
(ii) compares said information to information previously stored in said one or more storage locations, and	each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware	
(iii) generates an indication based on the result of said comparison; and	Product Activation software indicates whether the test has passed or failed	
(4) programming which takes one or more actions based on the state of said indication;		
(i) said one or more actions including at least temporarily halting further processing.	Product Activation software will allow system startup procedures to continue, if test succeeds, or discontinue startup and offer user opportunity to reactivate if the test fails	

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156.	Product Infringing: Any product using Microsoft Product Activation or Reader Activation feature.	
A virtual distribution environment comprising		
(a) a first host processing environment comprising	computer running a Microsoft product containing the Product Activation feature, including Windows XP, Office XP, Visio 2002 and Reader	
(1) a central processing unit;	CPU of computer	
(2) main memory operatively connected to said central processing unit;	main memory of computer	
(3) mass storage operatively connected to said central processing unit and said main memory;	hard disk or other mass storage contained in computer	
(b) said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	Microsoft Product Activation software	
(1) machine check programming which derives information from one or more aspects of said host processing environment.	Product Activation software generates hardware information relating to the host processing environment as part of the activation process	
(2) one or more storage locations storing said information;	hardware information is stored in the computer's storage	
(3) integrity programming which		
(i) causes said machine check programming to derive said information,	each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware	
(ii) compares said information to information previously stored in said one or more storage locations, and	each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware	
(iii) generates an indication based on the result of said comparison; and	Product Activation software indicates whether the test has passed or failed	
(4) programming which takes one or more actions based on the state of said indication;		
(i) said one or more actions including at least temporarily disabling certain functions.	Product Activation may disable the underlying software from generating new files or running user applications if the test fails	

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7 157.	8 Product Infringing: Any product using 9 Microsoft Product Activation or Reader 10 Activation feature. 11
12 A virtual distribution environment comprising	13
13 (a) a first host processing environment 14 comprising	15 computer running a Microsoft product 16 containing the Product Activation feature, 17 including Windows XP, Office XP, Visio 2002 18 and Reader
19 (1) a central processing unit;	20 CPU of computer
20 (2) main memory operatively connected 21 to said central processing unit;	22 main memory of computer
22 (3) mass storage operatively connected 23 to said central processing unit and said 24 main memory;	25 hard disk or other mass storage contained in 26 computer
26 (b) said mass storage storing tamper resistant 27 software designed to be loaded into said 28 main memory and executed by said central 29 processing unit, said tamper resistant 30 software comprising:	31 Microsoft Product Activation software
31 (1) machine check programming which 32 derives information from one or more 33 aspects of said host processing 34 environment,	35 Product Activation software generates hash 36 information relating to the host processing 37 environment as part of the activation process
37 (2) one or more storage locations 38 storing said information;	39 hardware information is stored in the 40 computer's storage
40 (3) integrity programming which	41
41 (i) causes said machine check 42 programming to derive said 43 information,	44 each time the Microsoft program starts up after 45 initial activation, Product Activation checks 46 the originally derived hardware information 47 against current hardware
47 (ii) compares said information 48 to information previously stored 49 in said one or more storage 50 locations, and	51 each time the Microsoft program starts up after 52 initial activation, Product Activation checks 53 the originally derived hardware information 54 against current hardware
54 (iii) generates an indication 55 based on the result of said 56 comparison; and	57 Product Activation software indicates whether 58 the test has passed or failed
58 (4) programming which takes one or 59 more actions based on the state of said 60 indication;	61
61 (i) said one or more actions 62 including displaying a message 63 to the user.	64 Product Activation software displays a 65 message to the user if the test fails

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5	CLAIM LANGUAGE	6	CLAIM OF INFRINGEMENT
156.			Products infringing: Windows Media Player
6	A virtual distribution environment comprising		WMP with Individualized DRM client (referred to hereafter as the Individualized WMP) running on a client computer
7	a first host processing environment comprising		
8	a central processing unit		Client CPU
9	main memory operatively connected to said central processing unit		Client memory
10	mass storage operatively connected to said central processing unit and said main memory		Local disk drive
11	said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:		Individualized WMP (I-WMP) stored on disk and loaded into main memory upon execution. I-WMP is tamper resistant.
12	machine check programming which derives information from one or more aspects of said host processing environment,		Individualization module is generated by the MS individualization service either when the un-individualized WMP tries to open licensed content that requires a security upgrade (aka, Individualization) or when the user requests an upgrade un-provoked. The individualization module is unique and signed and is bound to a unique hardware ID using the MS machine activation process.
13	one or more storage locations storing said information		The aforementioned unique feature are located in multiple places or storage locations
14	integrity programming which		
15	causes said machine check programming to derive said information,		The ID is regenerated by WMP/DRM client when first loading the Individualized DRM Client to access a piece of content requiring the security upgrade.
16	compares said information to information previously stored in said one or more storage locations, and		The program checks the new copy against the one to which the Individualized DRM client is bound.
17	generates an indication based on the result of said comparison; and		Program stores the result of this check.
18	programming which takes one or more actions based on the state of said indication		If these are not equal, the user is notified via a message stating that he/she must acquire a security upgrade (that is, the current security upgrade is invalid). If they are equal then processing of songs requiring Individualization continues.
19	said one or more actions including at least temporarily disabling certain functions.		Songs targeted to this Individualization module cannot be accessed until the upgrade is correct.
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157. A virtual distribution environment comprising	Infringing products include: Windows Media Player
a first host processing environment comprising	See 156
a central processing unit	See 156
main memory operatively connected to said central processing unit	See 156
mass storage operatively connected to said central processing unit and said main memory	See 156
said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	See 156
machine check programming which derives information from one or more aspects of said host processing environment,	See 156
one or more storage locations storing said information	See 156
integrity programming which causes said machine check programming to derive said information compares said information to information previously stored in said one or more storage locations, and	See 156
generates an indication based on the result of said comparison; and	See 156
programming which takes one or more actions based on the state of said indication	See 156
said one or more actions including displaying a message to the user.	If these are not equal, the user is notified via a message stating that he/she must acquire a security upgrade (that is, the current security upgrade is invalid).

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5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 157.	Infringing Product: Microsoft's Windows File Protection and System File Checker features, embodied in Microsoft's Windows 2000, Windows XP products, and Server 2003
8 A virtual distribution environment comprising	
9 (a) a first host processing environment comprising	computer running Microsoft Windows 2000 or Windows XP.
10 (1) a central processing unit;	CPU of computer
11 (2) main memory operatively connected to said central processing unit;	main memory of computer
12 (3) mass storage operatively connected to said central processing unit and said main memory;	hard disk or other mass storage contained in computer
13 (b) said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	Windows File Protection process/service ("WFP") and System File Checker (SFC.exe) features of winlogon.exe. Winlogon.exe is treated as a "critical" service by the Windows operating system. Files supporting WFP (including winlogon.exe, sfc.exe, sfc.dll (2000 only), sfcfiles.dll (2000 only) and sfc_os.dll (XP only)) are "protected" files and are signed using a signature verified by a hidden key. In Windows 2000, WFP uses hidden functions within the sfc.dll library. Functions are imported by "ordinal" instead of "name."
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(1) machine check programming which derives information from one or more aspects of said host processing environment,	Winlogon either directly or using another dll (XP) or using SFC.dll (2000) determines if changed file was protected, computes the hash of protected files and, if necessary, computes the hash of the file in the dll cache before using it to replace a file overwritten by an incorrect version of the file.
(2) one or more storage locations storing said information;	hardware information is stored in the computer's memory
(3) integrity programming which	
(i) causes said machine check programming to derive said information,	Windows notifies Winlogon when there has been a system directory change or a change in the dll cache.
(ii) compares said information to information previously stored in said one or more storage locations, and	Winlogon either directly or using another dll (XP) or using SFC.dll (2000) compares computed hash with hash in the hash database created from the Catalog file(s), and, if there is a difference, compares the hash of the file in the dll cache to the hash database created from

		the Catalog file(s) before using it to replace an overwritten file.
2	(iii) generates an indication based on the result of said comparison; and	An event is written to the Event Viewer if hashes do not agree.
4	(4) programming which takes one or more actions based on the state of said indication;	Depending on the circumstances, WFP displays several messages to the user, including prompting the user to contact the system administrator, and to insert a CD-ROM.
6	(i) said one or more actions including displaying a message to the user.	See above. Messages also constitute viewable Event Property pop-ups.

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4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6. A process comprising the following steps:	Product Infringing: XBox The process constitutes assembly and use of components making up an XBox game.
7 accessing a first record containing information directly or indirectly identifying one or more elements of a first component assembly,	The first record consists of the second file table on an XBox DVD. This table identifies the .xbe file which includes the game information.
9 at least one of said elements including at least some executable programming,	The .xbe file includes executable programming.
11 at least one of said elements constituting a load module,	The .xbe file is a load module.
12 said load module including executable programming and a header;	The .xbe file includes a header.
14 at least a portion of said header is a public portion which is characterized by a relatively lower level of security protection; and	Most information in the .xbe header is not obfuscated.
16 at least a portion of said header is a private portion which is characterized, at least some of the time, by a level of security protection which is relatively higher than said relatively lower level of security protection,	The entry point address and the kernel image thunk address listed in the .xbe header are obfuscated and therefore at a higher level of security protection.
19 using said information to identify and locate said one or more elements;	The second file table identifies the .xbe file, including where that file is located.
20 accessing said located one or more elements;	The .xbe file is accessed by the XBox.
22 securely assembling said one or more elements to form at least a portion of said first component assembly;	At runtime, the .xbe file is assembled with certain services of the operating system to form a component assembly. Security associated with this assembling process includes verifying signatures associated with portions of the .xbe file, and replacing obfuscated calls to operating system services with actual addresses. The assembly may also include patch files downloaded from a remote server.
28 executing at least some of said executable	Game play requires execution of the

1	programming; and 2 checking said record for validity prior to 3 performing said executing step.	assembled programming. 4 The second file table is protected by a 5 digital signature, and is not loaded/used 6 unless the digital signature is verified 7 against the file.
5	7. A process as in claim 6 in which: 6 said relatively lower level of security 7 protection comprises storing said public 8 header portion in an unencrypted state; and 9 10 said relatively higher level of security 8 protection comprises storing said private 9 header portion in an encrypted state.	The header is protected by the techniques protecting the xbe such as signing and security descriptors, but it is not encrypted except as noted below. The entry point address and the kernel image thunk address listed in the xbe header are obfuscated. The Xbox SDK's (XDK) image build uses a key value shared with the retail XBox to perform two XOR operations against the addresses

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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
8.	Infringing products: Microsoft CLR or CCLR and .NET Framework SDK and products that include one or both of these.
A process comprising the following steps:	
(a) accessing a first record containing information directly or indirectly identifying one or more elements of a first component assembly,	The first record is either an assembly manifest, or a whole assembly; the elements are other assemblies that are referenced as external in the first record; the first component assembly is a .NET application domain.
(1) at least one of said elements including at least some executable programming,	Assembly contains executable programming.
(2) at least one of said elements constituting a load module,	This is an external assembly referenced in the first record.
(i) said load module including executable programming and a header;	Assemblies include executable programming, and the assembly manifest and CLS type metadata constitute a header.
(ii) said header including an execution space identifier identifying at least one aspect of an execution space required for use and/or execution of the load module associated with said header;	This feature is provided for in the .NET architecture through numerous mechanisms, for example, by demands for ZoneID permissions.
(iii) said execution space identifier provides the capability for distinguishing between execution spaces providing a higher level of security and execution spaces providing a lower level of security;	SecurityZone or other evidence provides this capability.
(b) using said information to identify and locate said one or more elements;	Manifest and type metadata information section is used to identify and locate files, code elements, resource elements, individual classes and methods.
(c) accessing said located one or more elements;	Step carried out by the CLR or CCLR loader.
(d) securely assembling said one or more elements to form at least a portion of said first component assembly;	CLR or CCLR carries out this step, including checking the integrity of the load module, checking the load module's permissions, placing the load module contents into an application domain, isolating it from malicious or badly behaved code, and from code that does not have the permission to call it.
(e) executing at least some of said executable programming; and	Step carried out by the CLR/CCLR and the CLR/CCLR host.

1	(f) checking said record for validity prior to 2 performing said executing step.	The CLR/CCLR checks the authenticity and 3 the integrity of the first .NET assembly.
4	9. A process as in claim 8 in which said execution space providing a higher level of security comprises a secure processing environment.	The CLR/CCLR constitutes a secure processing environment.
5	13. A process as in claim 8 further comprising: 6 (a) comparing said execution space identifier against information identifying the execution space in which said executing step is to occur; and	In one example, the ZoneIdentityPermissionAttribute SecurityZone value demanded by control in the assembly manifest is compared against the SecurityZone attribute value corresponding to the calling method
7	8 (b) taking an action if said execution space 9 identifier requires an execution space with a security level higher than that of the execution space in which said executing step is to occur.	10 CLR/CCLR will throw an exception and transfer control to an exception handler in the calling routine, or it will shut down the application if there is no such exception handler, if the permissions do not include the permissions required by the ZoneIdentityPermissionAttribute. The ZoneIdentityPermissions are hierarchical, unless customized.
11	12 14. A process as in claim 13 in which said action includes terminating said process prior to said executing step.	13 CLR/CCLR may terminate the process or transfer control to an exception handler that may itself terminate the process.

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7 8. A process comprising the following steps:	Products infringing include Windows Installer SDK, and products that include the Windows Installer technology. Scenario 1: use of Windows Installer packages (i.e. .MSI files) to create Windows Installer- enabled applications, such as Office 2000 and use of the WI service to install them. Scenario 2: software distribution technologies that use the Windows Installer OS service for installation, such as Internet Component Download and products like Office Web Components. Either scenario can be used by SMS, IntelliMirror and third party tools like InstallShield and WISE. NT or later operating systems (because they use the subsystem identifier) using cabinet files, .CAB, (because they have a manifest and INF and/or OSD files), and have been signed with a digital signature and will be authenticated by Authenticode or WinVerifyTrust API and contain at least one PE (portable executables)
18 (a) accessing a first record containing 19 information directly or indirectly identifying 20 one or more elements of a first component 21 assembly,	Scenario 1: First record is the .MSI file that contains information on what goes in the assembly and how to install the assembly. Scenario 2: A. First record is the cabinet manifest (indirect instructions) B. Or, First record can be INF and/or OSD files (direct instructions)
24 (1) at least one of said elements 25 including at least some executable 26 programming,	Both scenarios: The PE (portable executable) in the cabinet file is the executable programming.
27 (2) at least one of said elements 28 constituting a load module,	Both scenarios: PE is a load module:
(i) said load module including executable programming and a	Both scenarios: The PE has several headers.

1	header;	
2	(ii) said header including an execution space identifier identifying at least one aspect of an execution space required for use and/or execution of the load module associated with said header;	Both scenarios: SUBSYSTEM is a field in the PE Optional Header that is an execution space
3	(iii) said execution space identifier provides the capability for distinguishing between execution spaces providing a higher level of security and execution spaces providing a lower level of security;	Both scenarios: SUBSYSTEM distinguishes between programs that can run in kernel mode and those that can run in user mode. This is a key security concept of process separation that was introduced with Windows NT. The Subsystem field in the PE header is used by the system to indicate whether the executable will run within Ring 3 (user mode) or use Ring 0 (native or kernel mode). Anything running in Ring 3 is limited to its own processing space. Executables running in Ring 0 can reach out to other spaces and have security measure built around them.
4	(b) using said information to identify and locate said one or more elements;	Scenario 1: the MSI file identifies and locates the elements Scenario 2: .CAB manifest is used to identify Physical location OSD and/or INF is used to identify Logical location
5	(c) accessing said located one or more elements;	Scenario 1: Using the MSI file Scenario 2: Using INF and/or OSD in cabinet file
6	(d) securely assembling said one or more elements to form at least a portion of said first component assembly;	Both scenarios: Using the Window Installer OS service with various properties and flags on the settings for higher protection. Windows Installer has numerous flags that the developer can set to indicate how the assembly will be installed, in what privilege level, with how much user interface, and how much ability the user has to watch or change what is occurring. These controls have been strengthened with each release of Windows Installer. Windows Installer 1.1 and later has the ability to limit the users capabilities during the installation. In a Windows 2000

1 environment and later, using the Group Policy-based Change and Configuration Management, the administrator has the most control
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Fields that can be set by the developer or administrator to control what users can do include the following:

TransformsSecure can be set to a value of 1 to inform the installer that transforms are to be cached locally on the user's computer in a location the user does not have write access. (Transforms create custom installations from a basic generic installation, for example to make the Finance versions different from the Marketing version or English versions different from Japanese versions.)

AllowLockdownBrowse and *DisableBrowse* can prevent users from browsing to the sources.

SourceList can be used to specify the only allowable source to be used for the installation of a given component.

Environment can be used to specify whether the installation can be done while the user is logged on or only when no user is logged on.

Security Summary Property conveys whether a package can be opened as read-only or with no restriction.

Privileged Property is used by developers of installer packages to make the installation conditional upon system policy, the user being an administrator, or assignment by an administrator.

Restricted Public Properties can be set as variables for an installation. "For managed installations, the package author may need to limit which public properties are passed to the server side and can be changed by a user that is not a system administrator. Some are commonly necessary to maintain a secure environment when the installation requires the installer use elevated privileges."

SecureCustomProperties can be created by the author of an installation package to add controls beyond the default list.

MsiSetInternalUI specifies the level of user interface from none to full.

A *Sequence Table* can be used to specify the required order of execution for the installation process. There are three modes, one of which is the *Administrative Installation* that is used by the network administrator to assign and install applications.

InstallServicesAction registers a service for the system and it can only be used if the user is

	<p>an administrator or has elevated privileges with permission to install services or that the application is part of a managed installation.</p> <p><i>DisableMedia</i> system policy disables media sources and disables browsing to media sources. It can be used with <i>DisableBrowse</i> to secure installations version 1.1 that doesn't have some of the other capabilities.</p> <p><i>AlwaysInstallElevated</i> can be set per user or per machine and is used to install managed applications with elevated privileges.</p> <p><i>AllowLockdownBrowse</i>, <i>AllowLockdownMedia</i> and <i>AllowLockdownPatch</i> set these capabilities so they can only be performed by an administrator during an elevated installation.</p> <p>[See article "HowTo: Configure Windows Installer for Maximum Security (Q247528)."</p> <p>Windows XP Professional and .NET have the additional capability to set <i>Software Restriction Policies</i> and have these used by Windows Installer.</p> <p>In addition, most of the software distribution technologies that use Windows Installer also add a layer of their own controls. For example, SMS 2.0 enables the administrators to control the installation is optional or required and whether the user can affect the installation contents/features at all.</p>
(e) executing at least some of said executable programming; and	Both scenarios: Part of executable is called during installation in order to do self-registration or perform custom actions. The overall executable is used at runtime.
(f) checking said record for validity prior to performing said executing step.	<p>Scenario 1: Sign the overall package and the cabinet files.</p> <p>Scenario 2: The cabinet file is signed.</p> <p>For IE with the default security level or higher, the digital signature is verified by Authenticode or a similar utility before the component is allowed to be assembled.</p>

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35.	Products infringing include all products that host the Microsoft .NET Common Language Runtime or Compact Common Language Runtime.
A process comprising the following steps:	
(a) at a first processing environment receiving a first record from a second processing environment remote from said first processing environment;	Computer running the Microsoft CLR/CCLR receives, for example, a shared assembly header or a complete shared assembly from another computer, for example a server.
(1) said first record being received in a secure container;	The shared assembly is cryptographically hashed and signed.
(2) said first record containing identification information directly or indirectly identifying one or more elements of a first component assembly;	The first record is either an assembly manifest, or a whole assembly; the elements are other assemblies that are referenced as external in the first record; the first component assembly is a .NET application domain.
(i) at least one of said elements including at least some executable programming;	Assembly contains executable programming.
(ii) said component assembly allowing access to or use of specified information;	The specified information can include any kind of data file, stream, log, environment variables, etc.
(3) said secure container also including a first of said elements;	The shared assembly includes at least some executable programming.
(b) accessing said first record	CLR/CCLR accesses the assembly or assembly header.
(c) using said identification information to identify and locate said one or more elements;	Manifest and type metadata information section is used to identify and locate files, code elements, resource elements, individual classes and methods.
(1) said locating step including locating a second of said elements at a third processing environment located remotely from said first processing environment and said second processing environment;	Met by a multifile assembly, with files distributed across a network, or by the second element constituting another referenced assembly located elsewhere; the CLR/CCLR uses probing to locate and access the file.
(d) accessing said located one or more elements;	Step carried out by the CLR/CCLR loader.
(1) said element accessing step including retrieving said second element from said third processing environment;	Step carried out by the CLR/CCLR loader.
(e) securely assembling said one or more elements to form at least a portion of said first component assembly specified by said first record; and	CLR/CCLR carries out this step, including checking the integrity of the load module, checking the load module's permissions, placing the load module contents into an application domain, isolating it from malicious or badly behaved code, and from code that

1		does not have the permission to call it.
2	(f) executing at least some of said executable programming,	Step carried out by the CLR/CCLR.
3	(1) said executing step taking place at said first processing environment.	CLR/CCLR is operating in the first processing environment specified above.

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5 34.	Product Infringing: Microsoft Operating 6 Systems that support device driver 7 signature technology
8 A descriptive data structure embodied on a 9 computer-readable medium or other logic 10 device including the following elements: 11 a representation of the format of data 12 contained in a first rights management data 13 structure 14 The driver package's INF is a data 15 structure. The INF contains multiple types 16 of sections, structured as hierarchy 17 /"branches," that the Windows operating 18 system or its Plug and Play and/or Set-up 19 installation services "branch" through 20 based on the operating system information 21 and device for which a driver is to be 22 installed. The installation services use the 23 "branching" structure (format) to determine 24 what files should be installed. The INF, 25 further provides disk location information 26 and file directory path information for the 27 files identified as necessary as a result of 28 the "branching" process. The driver package is a "rights management" data structure based on the fact that it is governed and based on the fact that it processes governed information. <u>Rights Management as Governed Item</u> A driver manufacturer can include rules governing the driver's installation and/or use in the driver's INF file. For example: Security entries specify an access control list for the driver. Driver developers can specify rules that determine behavior of the driver package based on the user's operating system version, including product type and suite and the device for which the driver is to be installed Rules specifying logging Local administrators can establish policy as to what action or notification should occur in the event that a driver being installed is not signed.	

	<p>The operating system installation services have a ranking criteria it follows when multiple drivers are available for a newly detected device. The criterion is used to determine the driver best suited for ensuring compatibility with the operating system and ensuring functionality of the device.</p> <p>Drivers have been certified to be compatible with specified operating system versions for their respective device classes. The catalog file protects the integrity of the driver.</p> <p>Microsoft distributes the Driver Protection List to prevent known bad driver from being installed.</p>
18 said representation including: 19 element information contained within 20 said first rights management data 21 structure; and	<p><u>Processing Rights Managed Items</u></p> <p>Certain drivers (SAP) have been explicitly certified to protect DRM content.</p> <p><u>MSDN – DRM Overview</u></p> <p>A DRM-compliant driver must prevent unauthorized copying while digital content is being played. In addition, the driver must disable all digital outputs that can transmit the content over a standard interface (such as S/PDIF) through which the decrypted content can be captured.</p> <p>The elements of a driver package include: A driver that is typically a dynamic-link library with the .sys filename extension. An INF file containing information that the system Setup components use to install support for the device. A driver catalog file containing the digital signature. One or more optional co-installers which are a Win32® DLL that assists in device installation NT-based operating systems. Other files, such as a device installation application, a device icon, and so forth.</p> <p><u>XP DDK – INF Version Section</u></p> <p>The LayoutFile entry specifies one or more additional system-supplied INF files that contain layout information on the source media required for installing the software</p>

	<p>described in this INF. All system-supplied INF files specify this entry.</p> <p>The CatalogFile entry specifies a catalog (.cat) file to be included on the distribution media of a device/driver.</p> <p>Within an INF is a hierarchy with the top being a list of manufacturers, and sub-lists of models and at the bottom a list of install information by model.</p> <p>For Windows XP and later versions of NT-based operating systems, entries in the Manufacturer section can be decorated to specify operating system versions. The specified versions indicate OS versions with which the specified INF <i>Models</i> sections will be used. If no versions are specified, Setup uses the specified <i>Models</i> section for all versions of all operating systems.</p> <p>INF's SourceDiskNames and SourceDiskFiles sections specify organization information.</p> <p><u>XP DDK -- Source Media for INFs</u></p> <p>The methods you should use to specify source media for device files depend on whether your INFs ship separately from the operating system or are included with the operating system.</p> <p>INFs for drivers that are delivered separately from the operating system specify where the files are located using SourceDiskNames and SourceDiskFiles sections.</p> <p>If the files to support the device are included with the operating system, the INF must specify a LayoutFile entry in the Version section of the file. Such an entry specifies where the files reside on the operating system media. An INF that specifies a LayoutFile entry must not include SourceDiskNames and SourceDiskFiles sections.</p> <p><u>XP DDK -- INF SourceDiskNames Section</u></p> <p>A SourceDiskNames section identifies the distribution disks or CD-ROM discs that contain the source files to be transferred to the target machine during installation. Relevant values of an entry in the INF include:</p> <ul style="list-style-type: none"> <i>diskid</i> -- Specifies a source disk. <i>disk-description</i> -- Describes the contents
--	--

	<p>and/or purpose of the disk identified by <i>diskid</i>.</p> <p><i>tag-or-cab-file</i> -- This optional value specifies the name of a tag file or cabinet file supplied on the distribution disk, either in the installation root or in the subdirectory specified by <i>path</i>, if any.</p> <p><i>path</i>-- This optional value specifies the path to the directory on the distribution disk containing source files. The <i>path</i> is relative to the installation root and is expressed as \dirname1\dirname2... and so forth.</p> <p><i>flags</i> -- For Windows XP and later, setting this to 0x10 forces Setup to use <i>cab-or-tag-file</i> as a cabinet file name, and to use <i>tag-file</i> as a tag file name. Otherwise, <i>flags</i> is for internal use only.</p> <p><i>tag-file</i> -- For Windows XP and later, if <i>flags</i> is set to 0x10, this optional value specifies the name of a tag file supplied on the distribution medium, either in the installation root or in the subdirectory specified by <i>path</i>. The value should specify the file name and extension without path information.</p> <p><u>XP DDK -- INF SourceDisksFiles Section</u></p> <p>A SourceDisksFiles section names the source files used during installation, identifies the source disks (or CD-ROM discs) that contain those files, and provides the path to the subdirectories, if any, on the distribution disks containing individual files. Relevant values in an entry in the INF would include:</p> <p><i>filename</i> -- Specifies the name of the file on the source disk.</p> <p><i>diskid</i> -- Specifies the integer identifying the source disk that contains the file. This value and the initial <i>path</i> to the <i>subdir</i>(ectory), if any, containing the named file must be defined in a SourceDisksNames section of the same INF.</p> <p><i>subdir</i> -- This optional value specifies the subdirectory (relative to the SourceDisksNames <i>path</i> specification, if any) on the source disk where the named file resides.</p>
information relating to metadata, said metadata including:	
metadata rules used at least in part to govern at least one aspect of use and/or display of content stored within a rights management data structure,	The driver manufacturer can specify rules in the INF that govern the installation and/or use of the driver. For example, security entries specify an access control list for the

driver. Driver developers can specify rules in an INF file that determines behavior of the driver package based on the user's operating system version, including product type and suite. Also, rules related to logging can be specified as mentioned in next claim element.

For Example – Access Control List Rules

XP DDK – Tightening File-Open Security in a Device INF File

For Microsoft Windows 2000 and later, Microsoft tightened file-open security in the class installer INFs for certain device classes, including CDROM, DiskDrive, FDC, FloppyDisk, HDC, and SCSIAdapter.

If you are unsure whether the class installer for your device has tightened security on file opens, you should tighten security by using the device's INF file to assign a value to the **DeviceCharacteristics** value name in the registry. Do this within an *add-registry-section*, which is specified using the INF AddReg directive.

XP-DDK -- INF AddReg Directive

An INF can also contain one or more optional *add-registry-section.security* sections, each specifying a security descriptor that will be applied to all registry values described within a named *add-registry-section*.

A Security entry specifies a security descriptor for the device. The *security-descriptor-string* is a string with tokens to indicate the DACL (D:) security component. A class-installer INF can specify a security descriptor for a device class. A device INF can specify a security descriptor for an individual device, overriding the security for the class. If the class and/or device INF specifies a *security-descriptor-string*, the PnP Manager propagates the descriptor to all the device objects for a device, including the FDO, filter DOs, and the PDO.

For Example – Operating System Versioning

Operating-System Versioning for Drivers

	<p>under Windows XP</p> <p>Setup selects the [<i>Models</i>] section to use based on the following rules:</p> <p>If the INF contains [<i>Models</i>] sections for several major or minor operating system version numbers, Setup uses the section with the highest version numbers that are not higher than the operating system version on which the installation is taking place.</p> <p>If the INF [<i>Models</i>] sections that match the operating system version also include product-type decorations, product suite decorations, or both, then Setup selects the section that most closely matches the running operating system.</p>
	<p>said metadata rules including at least one rule specifying that information relating to at least one use or display of said content be recorded and/or reported.</p> <p>The AddService directive can set up event-logging services for drivers.</p> <p>INF AddService Directive</p> <p>An AddService directive is used to control how (and when) the services of particular Windows 2000 or later device's drivers are loaded, any dependencies on other underlying legacy drivers or services, and so forth. Optionally, this directive sets up event-logging services by the devices/drivers as well.</p> <p>Relevant sections of the directive's entry include:</p> <ul style="list-style-type: none"> <i>event-log-install-section</i> -- Optionally references an INF-writer-defined section in which event-logging services for this device (or devices) are set up. <i>EventLogType</i> -- Optionally specifies one of System, Security, or Application. If omitted, this defaults to System, which is almost always the appropriate value for the installation of device drivers. For example, an INF would specify Security only if the to-be-installed driver provides its own security support. <i>EventName</i> -- Optionally specifies a name to use for the event log. If omitted, this defaults to the given <i>ServiceName</i>.
<p>35. A descriptive data structure as in claim 34, in which:</p> <p>said first rights management data structure comprises a first secure container.</p>	<p>The driver package is secured through a catalog file that is signed by Microsoft's Windows Hardware Quality Lab and</p>

1		contains the hash of each file of the driver's package. The INF identifies the catalog file used to sign the driver package.
3	36. A descriptive data structure as in claim 35, in which:	
4	said first secure container comprises:	The first secure container is the driver package secured by a catalog file.
5	said content; and	The content is the driver and related files within the signed driver package.
6	rules at least in part governing at least one use of said content.	The rules are within the INF, which is part of the signed driver package.
8	37. A descriptive data structure as in claim 36, wherein the descriptive data structure is stored in said first secure container.	The INF is stored within the signed driver package.
10	44. A descriptive data structure as in claim 34, further including:	
11	a representation of the format of data contained in a second rights management data structure,	The manufacture and models sections in the INF Version section are provided for the possibility of a single INF representing the format for multiple drivers.
13		Operating system version "decorating" relating the architecture, major and minor operating systems versions, product and suit information all relate to the target environment and is used to identify the files necessary for the target environment.
14		An INF file, such as in the case of operating system targeting, can be used for more than one driver package since it can contain more than one catalog file.
15		Further an INF can address the drives necessary for a multi-functional device.
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21	said second rights management data structure differing in at least one respect from said first rights management data structure.	The files of the second data structure would vary from the files on the first data structure.
23	45. A descriptive data structure as in claim 44, in which:	
24	said information regarding elements contained within said first rights management data structure includes information relating to the location of at least one such element.	INF specify where the driver files are located using the SourceDiskNames and SourceDiskFiles sections.
27	46. A descriptive data structure as in claim 44, further including:	
28	a first target data block including information relating to a first target	Operating system version "decorating" relating the architecture, major and minor

1	environment in which the descriptive data structure may be used.	operating systems versions, product and suit information all relate to the first target environment.
3	47. A descriptive data structure as in claim 46, further including:	
4	a second target data block including information relating to a second target environment in which the descriptive data structure may be used,	Operating system version decorating will cover multiple operating systems.
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6	said second target environment differing in at least one respect from said first target environment.	This is the reason for version decorating.
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8	48. A descriptive data structure as in claim 46, further including:	
9	a source message field containing information at least in part identifying the source for the descriptive data structure.	The provider entry in the version section of the INF identifies the provider of the INF file. Also, the INF contains a manufacture section.
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INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
 2 **INTERTRUST INFRINGEMENT CHART**
 3 **FOR U.S. PATENT NO. 5,920,861**

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
58.	Product Infringing: Microsoft Reader SDK and Microsoft Digital Asset Server.
A method of creating a first secure container, said method including the following steps;	Method is carried out by Microsoft's Digital Asset Server and Microsoft's Litgen tools
(a) accessing a descriptive data structure, said descriptive data structure including or addressing	.opf file describing the file structure of a protected e-book including metadata, manifest, and "spine" information
(1) organization information at least in part describing a required or desired organization of a content section of said first secure container, and	Organization information regarding organization of the ebook and the inscription as specified in the manifest and spine information in the .opf file
(2) metadata information at least in part specifying at least one step required or desired in creation of said first secure container;	Metadata constitutes rules specifying the degree of security to use and/or XML rules
(b) using said descriptive data structure to organize said first secure container contents	e-book packaging carried out by Microsoft Litgen tool
(c) using said metadata information to at least in part determine specific information required to be included in said first secure container contents; and	Step performed by Digital Asset Server; example of specific information is owner/purchaser information required in the inscription process
(d) generating or identifying at least one rule designed to control at least one aspect of access to or use of at least a portion of said first secure container contents.	Analyzing the metadata and finally packaging the e-book using a particular security level specified through the metadata
71. A method as in claim 58, in which:	
(a) said specific information required to be included includes information at least in part identifying at least one owner or creator of at least a portion of said first secure container contents.	Owner purchaser information required in the inscription process; XML rule requiring display of copyright notice

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5 6 7 8 9	58.	Product Infringing: All products that host the Microsoft Common Language Runtime or Compact Common Language Runtime.
10	A method of creating a first secure container, said method including the following steps;	Method is practiced by a user using the Common Language Runtime (CLR) or Compact Common Language Runtime (CCLR) to create a dynamic shared assembly or .NET Framework SDK to create a shared assembly
11	(a) accessing a descriptive data structure, said descriptive data structure including or addressing	.NET framework Assembly class and/or AssemblyBuilder class and/or AssemblyInfo file
12	(1) organization information at least in part describing a required or desired organization of a content section of said first secure container, and	This information is specified in the classes named above and in the AssemblyInfo file.
13	(2) metadata information at least in part specifying at least one step required or desired in creation of said first secure container;	This information is addressed in the classes and the AssemblyInfo file, e.g., for a shared assembly metadata will be specified that the assembly is to be signed using specified key
14	(b) using said descriptive data structure to organize said first secure container contents;	This step is carried out by applications and tools using the classes and assembly info file, including CLR (or CCLR) and .NET Framework SDK
15	(c) using said metadata information to at least in part determine specific information required to be included in said first secure container contents; and	This step is carried out by applications and tools using the assembly info file and classes that specify the metadata required in the target assembly
16	(d) generating or identifying at least one rule designed to control at least one aspect of access to or use of at least a portion of said first secure container contents.	User may specify rules, as specified in the .NET Framework SDK, to be placed in the assembly manifest including such rules requiring that all code be managed (CLR or CCLR compliant), "Code Access Security" permissions be supplied for use of code supplied in the assembly, etc
17	64. A method as in claim 58, in which:	
18	(a) said creation of said first secure container occurs at a first data processing arrangement located at a first site;	Can be a server, PC or workstation running CLR (or CCLR) to create a dynamic shared assembly or .NET Framework SDK to create a shared assembly)
19	(b) said first data processing arrangement including a communications port; and	Included in virtually any computer
20	(c) said method further includes:	
21	(1) prior to said step of accessing said descriptive data structure, said	Download of the assemblyinfo file and/or a file containing a class calling the

1	first data processing arrangement receiving said descriptive data structure from a second data processing arrangement located at a second site,	DefineDynamicAssembly methods or download of SDK containing assemblybuilder class from a second site
2	(d) said receipt occurring through said first data processing arrangement communications port.	Communications port is normally used for downloading
3	67. A method as in claim 64, further comprising:	
4	at said first processing site, receiving said metadata through said communications port.	Download of the AssemblyInfo file and/or a file containing a class calling the DefineDynamicAssembly methods or download of SDK containing assemblybuilder class from a second site
5	68. A method as in claim 67, in which,	
6	(a) said metadata is received separately from said descriptive data structure.	Method practiced when metadata names are addressed by the assembly class and a template for the AssemblyInfo file, and values corresponding to those names are received through a user interface such as provided by Microsoft Visual Studio or are provided from a separate file
7	71. A method as in claim 58, in which:	
8	(a) said specific information required to be included includes information at least in part identifying at least one owner or creator of at least a portion of said first secure container contents.	The Assembly class definition includes attributes for company name and trademark information, and these may be required attributes specified in the AssemblyInfo file
9	72. A method as in claim 58, in which:	
10	(a) said specific information required to be included includes a copyright notice.	The Assembly class definition includes an attribute for copyright field that may be required by the AssemblyInfo file
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2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,920,861

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 58.	Product Infringing: Microsoft .NET 8 Framework, Visual Studio .NET, and tools 9 that include the Assembly Generator tool 10 AL.exe.
11 A method of creating a first secure 12 container, said method including the 13 following steps;	The Assembly Generation tool generates 14 a portable execution file with an assembly 15 manifest from one or more files that are 16 either Microsoft intermediate language 17 (MSIL) modules or resource files. When 18 using the tool's signing option, the 19 assembly becomes a <i>secure container</i> .
20 (a) accessing a descriptive data structure, 21 said descriptive data structure 22 including or addressing	The <i>descriptive data structure</i> is the text 23 file used as input by the Assembly 24 Generation tool.
25 (1) organization information at least 26 in part describing a required or 27 desired organization of a content 28 section of said first secure 29 container, and	The DDS specifies the <i>link</i> and or <i>embed</i> 30 directives to indicate which source files 31 should be included in the assembly, how 32 the included resource will be tagged, and if 33 the resource will be private. Private 34 resources are not visible to other 35 assemblies. 36 These tags are used to organize the 37 assembly into <i>named sections</i> . 38 Private attributes are used to organize the 39 assembly into both public and <i>private</i> 40 sections. (Public sections are the default.)
41 (2) metadata information at least in 42 part specifying at least one step 43 required or desired in creation of 44 said first secure container;	The text file can contain "options" relating 45 to how the assembly should be built and 46 additional information that should be 47 included. 48 <i>Main</i> – Specifies the method to use as 49 an entry point when converting a 50 module to an executable file. 51 <i>AlgId</i> – Specifies an algorithm to hash 52 all files. 53 <i>Comp</i> – Specifies string for the 54 Company field. 55 <i>Conf</i> – Specifies string for 56 Configuration field 57 <i>Copy</i> – Specifies string for Copyright 58 field. 59 <i>Culture</i> – Specifies the culture string to 60 associate with the assembly. 61 <i>Delay</i> – Variation of this option 62 specifies whether the assembly will be

	<p>fully or partially signed and whether the public key is placed in the assembly.</p> <p><i>Description</i> – Specifies the description field.</p> <p><i>Evidence</i> – Embeds file in the assembly with the resource name <i>Security.Evidence</i>.</p> <p><i>Fileversion</i> – Specifies the file version of the assembly.</p> <p><i>Flags</i> – Specifies flags for such things as the assembly is side-by-side compatible, assembly cannot execute with other versions if either they are executing in the same application domain, process or computer.</p> <p><i>Keyf</i> – Specifies a file that contains a key or key pair to sign an assembly.</p> <p><i>Keyn</i> – Specifies the container that holds a key pair.</p> <p><i>Product</i> – Specifies string for Product field.</p> <p><i>Productv</i> – Specifies string for Product Version.</p> <p><i>Template</i> – Specifies the assembly from which to inherit all assembly metadata.</p> <p><i>Title</i> – Specifies string for Title field.</p> <p><i>Trade</i> – Specifies string for Trademark field.</p> <p><i>V</i> – Specifies version information.</p>
(b) using said descriptive data structure to organize said first secure container contents	<p>The following directives are used to specify which files are to be compiled into the assembly, how they will be tagged, and whether or not they will be visible to other assemblies, AKA private:</p> <p><i>Embed</i>[name, private] – copies the content of the file into the assembly and applies an optional name tag, and optional private attribute.</p> <p><i>Link</i>[name, private] – file becomes part of the assembly via a link and applies an optional name tag, and optional private attribute.</p>
(c) using said metadata information to at least in part determine specific information required to be included in said first secure container contents; and	<p>The following are some of the “options” address what information should be included in the secure container:</p> <p><i>Main</i> – Specifies the method to use as an entry point when converting a module to an executable file.</p> <p><i>Comp</i> – Specifies string for the Company field.</p> <p><i>Conf</i> – Specifies string for Configuration field</p> <p><i>Copy</i> – Specifies string for Copyright</p>

	<p><i>field.</i></p> <p><i>Culture</i> – Specifies the culture string to associate with the assembly.</p> <p><i>Description</i> – Specifies the description field.</p> <p><i>Evidence</i> – Embeds file in the assembly with the resource name <i>Security.Evidence</i>.</p> <p><i>Fileversion</i> – Specifies the file version of the assembly.</p> <p><i>Flags</i> – Specifies flags for such things as the assembly is side-by-side compatible, assembly cannot execute with other versions if either they are executing in the same application domain, process or computer.</p> <p><i>Keyf</i> – Specifies a file that contains a key or key pair to sign an assembly.</p> <p><i>Keyn</i> – Specifies the container that holds a key pair.</p> <p><i>Product</i> – Specifies string for Product field.</p> <p><i>Productv</i> – Specifies string for Product Version.</p> <p><i>Template</i> – Specifies the assembly from which to inherit all assembly metadata.</p> <p><i>Title</i> – Specifies string for Title field.</p> <p><i>Trade</i> – Specifies string for Trademark field.</p> <p><i>V</i> – Specifies version information.</p>	
16	(d) generating or identifying at least one rule designed to control at least one aspect of access to or use of at least a portion of said first secure container contents.	User may specify rules, as specified in the .NET Framework SDK, to be placed in the assembly manifest including such rules requiring that all code be managed (CLR compliant), "Code Access Security" permissions be supplied for use of code supplied in the assembly, etc.
20	71. A method as in claim 58, in which:	
21	(a) said specific information required to be included includes information at least in part identifying at least one owner or creator of at least a portion of said first secure container contents.	The following "options" specifies owner and creator information: <i>Comp</i> – Specifies string for the Company field. <i>Copy</i> – Specifies string for Copyright field. <i>Trade</i> – Specifies string for Trademark field.
25	72. A method as in claim 58, in which:	
26	(a) said specific information required to be included includes a copyright notice.	The copy "option" specifies the string for the for the Copyright field.

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1 entity; and	2 not the administrator (1 st scenario) or 3 creator/distributor of the first container (2 nd 4 scenario);
5 (c) securely processing a data item at said first 6 appliance, using at least one resource, 7 including securely applying, at said first 8 appliance through use of said at least one 9 resource said first entity's control and said 10 second entity's control to govern use of said 11 data item.	Secure processing is carried out by CLR, CLI 12 or CCLR, Data item constitutes an executable 13 code element, an interface controlled by such 14 an executable, a data collection or stream (such 15 as media file or stream or text file) or an 16 environment variable. CLR, CLI or CCLR 17 securely processes the rules, which will in both 18 scenarios govern access to methods and data 19 from the first assembly. The resource named in 20 the claim is, e.g., a Windows process that is 21 established by the runtime or hardware element 22 on the computer.
23 51. A method as in claim 1 wherein at least 24 said secure processing step is performed at an 25 end user electronic appliance.	Consumer computer or appliance running 26 Microsoft CLR, CLI or CCLR).
27 58. A method as in claim 1 wherein the step of 28 securely receiving a first entity's control comprises securely receiving said first entity's control from a remote location over a telecommunications link, and the step of securely receiving said second entity's control comprises securely receiving said second entity's control from the same or different remote location over the same or different telecommunications link.	1 st scenario 1: link is LAN or WAN; 2 nd scenario: link is any telecommunications link, including the internet.
31 65. A method as in claim 1 wherein the 32 processing step includes processing said first 33 and second controls within the same secure 34 processing environment.	Secure processing environment is CLR, CLI or 35 CCLR running on user's computer or 36 appliance.
37 71. A method as in claim 1 further including 38 the step of securely combining said first 39 entity's control and said second entity's control 40 to provide a combined control arrangement.	In scenario 2, arrangement consists of the stack 41 frame, and the corresponding array of 42 permission grants for assemblies on the stack, 43 and the permission demanded by the first 44 assembly. Secure combining performed by the 45 CLR, CLI or CCLR.
46 76. A method as in claim 1 wherein said two 47 securely receiving steps are independently 48 performed at different times.	Steps are performed at different times in both 49 scenarios.
50 84. A method as in claim 1 wherein at least one 51 of the first entity's control and the second 52 entity's control comprises at least one 53 executable component and at least one data 54 component.	In both scenarios the second entity supplies an 55 assembly with a demand procedure executed 56 by the CLR, CLI or CCLR. The data 57 component is a specific attribute value 58 referenced by the assembly.
59 89. A method as in claim 1 wherein said first 60 appliance includes a protected processing 61 environment, and wherein:	Microsoft Common Language Runtime (CLR), 62 Common Language Infrastructure (CLI), or 63 Compact Common Language Runtime (CCLR) 64 environment.
65 (a) said method further comprises a step of 66 receiving, at said first appliance, said data item	Typically occurs in both scenarios.

1	separately and at a different time from said receiving said first entity's control ; and	
2	(b) said securely processing step is performed at least in part in said protected processing environment	Protected processing environment is the CLR, CLI or CCLR.

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 2 **INTERTRUST INFRINGEMENT CHART**
 3 **FOR U.S. PATENT NO. 5,982,891**

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>22.</p> <p>A method of securely controlling use by a third party of at least one protected operation with respect to a data item comprising:</p> <p>(a) supplying at least a first control from a first party to said third party;</p> <p>(b) supplying, to said third party, at least a second control from a second party different from said first party;</p> <p>(c) securely combining at said third party's location, said first and second controls to form a control arrangement;</p> <p>(d) securely requiring use of said control arrangement in order to perform at least one protected operation using said data item; and</p> <p>(e) securely performing said at least one protected operation on behalf of said third party with respect to said data item by at least in part employing said control arrangement</p>	<p>Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport</p> <p>A user (third party) accesses an IRM-protected data item governed by IRM controls under two or more RMS servers. For example, the data item may be a IRM-protected document. The IRM controls may be associated with the data item directly or via a IRM-protected container holding the IRM-protected data item, such as an IRM-protected email with the IRM-protected document attached.</p> <p>The user acquires a first use license from a first RMS server (first party) enabling access to, the IRM-protected data item under the IRM rules associated with the first RMS server. For example: (1) the first use license from the first RMS server permits the user to access a IRM-protected document contained within or attached to an IRM-protected email; or (2) the first use license from the first RMS server applies a first set of IRM rules to an IRM-protected document.</p> <p>The user acquires a second use license from a second RMS server (second party) enabling access to the IRM-protected data item under the IRM rules associated with the second RMS server. For example: (1) in addition to the user being given access to an IRM-protected email based on a first use license, a second RMS server provides a second use license enabling access to the IRM-protected document attached thereto; or (2) the second use license from the second RMS server applies a second set of IRM rules to the IRM-protected document.</p> <p>The first and second use licenses are combined to form a control arrangement that governs access to the IRM-protected data item.</p> <p>The combined first and second use licenses govern access to the IRM-protected data item.</p> <p>The user performs a protected operation (e.g., read, print, edit) on the IRM-protected data item. The combined first and second use licenses are employed to permit the protected operation.</p>
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1	23. A method as in claim 22 wherein said data item is protected.	The data item is encrypted and protected by IRM.
2	39. A method as in claim 22 further including securely and persistently associating at least one of: (a) said first control, (b) said second control, and (c) said control arrangement, with said data item.	The first and/or second use license are securely and persistently associated with the IRM-protected data item.
3	53. A method as in claim 22 wherein at least two of the recited steps are performed at an end user electronic appliance.	Steps performed at a user's computer or appliance.
4	60. A method as in claim 22 wherein step (a) comprises supplying said first control from at least one remote location over a telecommunications link, and step (b) comprises supplying said second control from the same or different remote location over the same or different telecommunications link	The first and second use licenses are received over a telecommunications link such as a networking or modem/serial interface.
5	67. A method as in claim 22 wherein at least step (c) is performed within the same secure processing environment at said third party's location.	Steps are performed at user's computer or appliance.
6	91. A method as in claim 22 wherein:	
7	(a) said method further comprises supplying said data item to said third party separately and at a different time from supplying of said first control to said third party; and	The first use license (first control) is received at the time that the user accesses the data item, which occurs separately and at a different time from receipt of the IRM-protected data item itself.
8	(b) said securely performing step comprises performing said protected operation at least in part in a protected processing environment.	The protected operations require decryption of the protected content, which is done inside the RM lockbox. The RM lockbox is protected by mechanisms such as obfuscation, anti-debugging, and tamper resistance.
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26.	Products infringing: Visual Studio.NET, .NET Framework SDK, and all products that include the Common Language Runtime or Compact Common Language Runtime or Common Language Infrastructure.
A secure method for combining data items into a composite data item comprising:	
(a) securely providing, from a first location to a second location, a first data item having at least a first control associated therewith;	A first signed and licensed .NET component, .NET assembly, managed control and/or Web control (component) is the first data item. The first .NET component developer (first location) provides the application assembly developer (second location) the first component. The first control is the set of declarative statements comprising the LicenseProviderAttribute (alternately referred to as license controls).
(b) securely providing, from a third location to said second location, a second data item having at least a second control associated therewith;	A second signed and licensed component is the second data item. The second component developer (third location) provides the application assembly developer (second location) the second component. The second control is the set of declarative statements comprising the LicenseProviderAttribute.
(c) forming, at said second location, a composite of said first and second data items;	The application assembly developer will include at least the two components into its assembly.
(d) securely combining, at said second location, said first and second controls to form a control arrangement; and	At the second location, the application assembly developer uses the .NET runtime that includes the LicenseManager. Whenever a component is instantiated (here, an instance of the first licensed component), the license manager accesses the proper validation mechanism for the component. The license controls (first control) for the runtime license (derived from the design time license) are bound into the header of the .NET application assembly, along with the second control for the second component.
	Visual Studio.NET securely handles the creation of runtime license controls. Runtime licenses are embedded into (and bound to) the executing application assembly. The license control attribute

	<p>included in the first component is customized in the second location to express and require the runtime license. In a more advanced scenario, the License Complier tool can be used to create a “.licenses file” containing licenses for multiple components, including runtime licenses for components and classes created by the license provider. This .licenses file is embedded into the assembly.</p> <p>The third control set comprises the runtime license controls for the first and second components (that had been bound to the assembly), the declarative controls provided by the application assembly developer, and any runtime licenses for other components included by the developer in application assembly. The controls are typically integrated into the header of the .NET application assembly calling the first licensed component.</p>
(e) performing at least one operation on said composite of said first and second data items based at least in part on said control arrangement.	The proper execution of the application will require that the assembly have runtime licenses for the two components.
27. A method as in claim 26 wherein said combining step includes preserving each of said first and second controls in said composite set.	The set of declarative statements comprising the LicenseProviderAttribute of both the first and second components are included in the application assembly.
28. A method as in claim 26 wherein said performing step comprises governing the operation on said composite of said first and second data items in accordance with said first control and said second control.	The application will require the first and second controls to operate properly when it calls the first and second data items, respectively.
29. A method as in claim 26 wherein said providing step includes ensuring the integrity of said association between said first controls and said first data item is maintained during at least one of transmission, storage and processing of said first data item.	Signing the component that has embedded within it the license control ensures the integrity of the association of the control and data item.
31. A method as in claim 26 wherein said providing step comprises codelivering said first data item and said first control.	The component includes the license control and therefore they are codelivered.
40. A method as in claim 26 further including the step of securely ensuring that at least one of (a) said first control, (b) said second control, and (c) said control arrangement, is persistently associated with	Each component includes the license control. Signing the component that has embedded within it the license control ensures the persistence of the association of the control and data item.

1	at least one of said first and second data items.	
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3	54. A method as in claim 26 wherein at least one of steps (c), (d) and (e) is performed at an end user electronic appliance.	At least step (e) is typically performed at an end-user electronic appliance.
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5	61. A method as in claim 26 wherein step (a) comprises providing said first data item from at least one remote location over a telecommunications link, and step (b) comprises providing said second data item from the same or different remote location over the same or different telecommunications link.	Microsoft maintains Web sites where a developer can get components over the Web. These sites include references whereby a developer may obtain components through their Web connection. One such site is Internet Explorer Web Control Gallery at ie.components.microsoft.com/webcontrols
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10	68. A method as in claim 26 wherein step (d) is performed within the same secure processing environment at said second location.	Typically, step (d) will be performed within the same secure processing environment.
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12	79. A method as in claim 26 wherein steps (a) and (b) are performed at different times.	The application assembly developer will typically acquire components at different times.
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15	86. A method as in claim 26 wherein at least one of the first and second controls comprises at least one executable component and at least one data component.	The component must include an executable and can include a data items as a EULA, readme file or help file.
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INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,982,891

CLAIM LANGUAGE		CLAIM OF INFRINGEMENT
4	35	Infringing products include: Windows 5 Media Player, Individualized DRM Clients 6 and the Secure Audio Path (SAP) 7 technology.
8	A method for using at least one resource 9 processed by a secure operating 10 environment, said method comprising: 11 securely receiving a first load module 12 provided by a first entity external to said 13 operating environment	The Individualized DRM Client (first load 14 module) is a signed security upgrade DLL. 15 It is also bound to the hardware ID of the 16 machine on which it runs. It is therefore 17 securely delivered and integrity protected. 18 A SAP certified driver is also signed and 19 carries with it a certificate that indicates its 20 compliance with SAP criteria. If it is 21 delivered to a PC it is secure in the sense 22 that it is integrity protected. This driver 23 would not come from the same entity as the 24 Individualization DLL.
25	securely receiving a second load module 26 provided by a second entity external to said 27 operating environment, said second entity 28 being different from said first entity; and 29 securely processing, using at least one 30 resource, a data item associated with said 31 first and second load modules, including 32 securely applying said first and second load 33 modules to manage use of said data item.	If a WM audio file targeted to the 34 Individualized DRM client carries with it a 35 requirement that SAP be supported to 36 render the WMF contents, the content is 37 processed for playing through a soundcard 38 using the WMP and by applying the DRM 39 client - which decrypts the content and 40 negotiates with the DRM kernel processing 41 of the content through a Secure Audio Path 42 that includes the SAP-certified audio 43 driver.
44	56. A method as in claim 35 wherein at 45 least two of the recited steps are performed 46 at an end user electronic appliance.	All steps occur at the user's PC that 47 supports the WMP and DRM client and 48 SAP.
49	63. A method as in claim 35 wherein said 50 first load module receiving step comprises 51 securely receiving said first load module 52 from at least one remote location over at 53 least one telecommunications link, and said 54 second load module receiving step 55 comprises securely receiving said second 56 load module from the same or different 57 remote location over the same or different 58 telecommunications link.	The Driver and DRM client are received 59 from distinct locations and may be 60 delivered securely over the Internet. They 61 are delivered securely in that each is 62 integrity protected.
63	70. A method as in claim 35 wherein said 64 securely processing step comprises 65 securely executing said first and second	Both load modules are executed on the PC 66 within the WMP/DRM Client/SAP 67 environment.

1 CLAIM LANGUAGE		2 CLAIM OF INFRINGEMENT	
2 load modules within the same secure processing environment.			
3 74. A method as in claim 35 further including securely combining said first and second load modules to provide a combined executable.		Since both the DRM client and the driver are DLLs in the same audio rendering chain, they exist as an execution environment.	
6 81. A method as in claim 35 wherein said securely receiving steps are performed independently at different times.		The driver and Individualization DLL need not be received at the same time.	
8 94. A method as in claim 35 wherein said secure operating environment includes a protected processing environment, and wherein: 11 said method further comprises receiving a data item within said secure operating environment; 13 said first load module receiving step is performed separately and at a time different from receiving said data item; and 15 said securely processing step is performed at least in part in said protected processing environment.		The Windows Media Player together with the Individualized DRM Client and Secure Audio Path comprise a protected environment for processing protected media. The protected Windows Media Files are received after the load modules have been received and installed (licenses cannot be acquired until load modules are in place). The processing of the Windows Media File occurs in the protected environment.	

17 Examples of SAP-certified drivers include - as indicated at
 18 <http://www.microsoft.com/Windows/windowsmedia/WM7/DRM/FAQ.asp#Security7>

- 19 ▪ All VIA controllers with AC-97 codecs
- 20 ▪ All ALI controllers with AC-97 codec
- 21 ▪ Intel ICH controllers with AC-97 codecs
- 22 ▪ Creative Labs SoundBlaster16/AWE32/AWE64/Vibra
- 23 ▪ Yamaha OPL3
- 24 ▪ Yamaha DS-1
- 25 ▪ Cirrus Logic (Crystal) CS4280
- 26 ▪ Cirrus Logic (Crystal) CS4614 / CS4624
- 27 ▪ ESS Maestro 2E
- 28 ▪ USB Audio
- Cirrus Logic (Crystal) CS4281

- 1 ▪ All SiS controllers with AC-97 codecs
- 2 ▪ Ensoniq ES1370
- 3 ▪ NeoMagic NM6
- 4 ▪ Ensoniq ES1371/73 and CT5880
- 5 ▪ SoundBlaster Live!
- 6 ▪ Aureal 8810
- 7 ▪ Aureal 8820
- 8 ▪ Aureal 8830
- 9 ▪ Conexant Riptide
- 10 ▪ ESS Maestro
- 11 ▪ ESS ISA parts
- 12 ▪ NeoMagic NMS

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36.	Product Infringing: Any product using Common Language Runtime (CLR), Common Language Infrastructure (CLI), or Compact Common Language Runtime (CCLR)
A secure operating environment system for managing at least one resource comprising:	Microsoft CLR, CLI or CCLR (operating environment system), managing any of the resources on a typical computer, including memory, files system, communications ports, storage devices, and higher level resources that may use any of these or combinations of them.
(a) a communications arrangement	Communications port and Microsoft Internet Protocol stack that may optionally use Secure Socket Layer protocol or IPSEC packet security protocol, supplied with Microsoft Windows.
(1) that securely receives a first control of a first entity external to said operating environment, and	Rule or evidence contained in the manifest of a shared assembly, distributed by a first entity that can be used by the CLR, CLI or CCLR to determine permissions that may be needed to cause operations on a data item or resource controlled by another entity; shared assembly is tamper-protected and may be received using secure SSL or IPSEC protocol.
(2) securely receives a second control of a second entity external to said operating environment, said second entity being different from said first entity; and	Rule specified in the manifest of a second shared (Tamper protected) assembly, that demands permissions of callers of its methods.
(b) a protected processing environment, operatively connected to said communications arrangement, that:	CLR, CLI or CCLR, connected to (e.g.) communications port
(1) [] securely processes, using at least one resource, a data item logically associated with said first and second controls, and	CLR, CLI or CCLR uses type safety mechanisms, access controls, integrity detection, and separation of domains. Data item may be any data item that is managed by the second assembly, which may be a member of such assembly, and whose state or value may be accessible through an interface to other assemblies, and which is referenced by the first assembly.
(2) [] securely applies said first and second controls to manage said resource for controlling use of said data item.	CLR, CLI or CCLR processes the demand for permissions from the second assembly, collects the evidence or processes the rule from the first assembly, and determines whether the first assembly has the permissions to use the resource to operate on the data item controlled by the second assembly.
57. A system as in claim 36 wherein said protected processing environment is part of an	Computer or electronic appliance running CLR, CLI or CCLR

1	end user electronic appliance.	
2	64. A system as in claim 36 wherein said communications arrangement receives said first and second controls from at least one remote location over at least one telecommunications link.	Shared assemblies are designed to be received remotely, e.g., over the internet.
3	75. A system as in claim 36 wherein said protected processing environment combines said first and second controls to provide a combined control arrangement.	Arrangement consists of the stack frame and the corresponding array of permission grants for assemblies on the stack, and the permission demanded by the second assembly.
4	82. A system as in claim 36 wherein said communications arrangement independently receives said first and second controls at different times	Assemblies, including controls, are designed for independent delivery.
5	88. A system as in claim 36 wherein at least one of the first control and second controls comprises at least one executable component and at least one data component.	The second entity supplies an assembly with a demand procedure (executed by the CLR, CLI or CCLR) that includes reference to a specific attribute value (the data component), and the protected processing environment executes the executable component (demand) in a manner that is at least in part responsive to the data component (execution is in response to the security action supplied in the data item).
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 4 FOR U.S. PATENT NO. 5,982,891

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 36.	Infringing Product: My Services
8 A secure operating environment system 9 for managing at least one resource 10 comprising: 11 a communications arrangement that 12 securely receives	Secure operating environment is the secure server for any .NET My Services service (e.g. My Calendar, My Inbox) Secure server receives communications formatted using the SOAP-SEC, the security extension to SOAP that is used by My Service servers to receive controls.
13 a first control	The first control is a roleTemplate associated with the service. The roleTemplate identifies specific actions (e.g. read, replace) that can be performed against a certain scope (resource or set of resources).
14 of a first entity external to said operating 15 environment,	The first entity is the administrator of the server database, or other entity with authority over its content that sets up the roleTemplates and scopes. That entity is independent from and located remotely from the secure server.
16 and securely receives a second control	A role element specified by a specific end user, which is securely received by the secure server using the SOAP-SEC protocol.
17 of a second entity external to said 18 operating environment, said second entity 19 being different from said first entity;	The end user is located remotely from the secure server.
20 and a protected processing environment, 21 operatively connected to said 22 communications arrangement, that:	The protected processing environment is the .NET security service (authorization system) operating within the server. The server uses the SOAP-SEC communication protocol to receive controls.
23 (a) securely processes, using at least one 24 resource, a data item logically associated 25 with said first and second controls, and	“Securely processes” is performing the requested operation on secure server running .NET. The system will perform the requested operation ensuring that the user has no access to information outside the

	scope computed. The resource is the server software and/or hardware used to process the two controls and user data.
	The first control is the roleTemplate for the service. The second control is the role element for an individual user.
	The data item is the end user's stored content (e.g. calendar, email inbox, etc.).
(b) securely applies said first and second controls to manage said resource for controlling use of said data item.	The secure server determines the result scope (visible node set) for the operation that is computed from the role element and the roleTemplate. That result scope is used to manage the data item.
64. A system as in claim 36 wherein said communications arrangement receives said first and second controls from at least one remote location over at least one telecommunications link.	The remote location is the site where the user's or administrator's application is running. The telecommunication link can be the Internet, intranet, VPN or other similar channels.
75. A system as in claim 36 wherein said protected processing environment combines said first and second controls to provide a combined control arrangement.	The role scope incorporating the role element and the role Template.
82. A system as in claim 36 wherein said communications arrangement independently receives said first and second controls at different times.	Administrator and user controls will ordinarily be received at different times.
95. A secure operating environment system as in claim 36 wherein said communications arrangement also receives a data item separately and at a different time from at least one of said first control and said second control.	This is the normal case for .NET My Services. The user's content is normally stored and updated independently of the setting of scope elements, role elements and roleTemplates.

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2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,157,721

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 1. A security method comprising: 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	Product Infringing: Windows CE for Automotive WCEfA is Microsoft Windows CE for Automotive, sometimes also known by its former name, AutoPC 2.0. With WCEfA an OEM can assign their device to a class that only accepts certain kinds of software. The device can be set to accept 1) any software with the correct processor/version 2) only certified software or 3) only software from the OEM or Microsoft. These Security (or Trust) levels also control to which kernel APIs and middleware APIs the software has access. Background: "Microsoft Software Install Manager (SIM), a component of WCEfA, allows you to control what can be installed on your device platform. You can define your platform as being <u>open</u> , <u>closed</u> or <u>restricted</u> to new installations, and SIM will enforce these designations." (D, pg.1) "Anything can be installed on an open platform, as long as the applications are compiled for the appropriate processor. At the other extreme, no third-party software can be installed on a closed platform. Only certified applications can be installed on a restricted platform." (D, pg.1) "By restricting installations to compliant applications, the risk of installing and using incompatible or harmful software is greatly reduced, while still keeping the device open for robust, quality applications that enhance the user experience." (F, pg.1) WCEfA also has a Security Layer whose purpose is to "Create an abstraction layer of security surrounding ISV applications to limit and/or deny access to key Windows CE kernel API calls and WCEfA middleware APIs." I, pg. 1)
(a) digitally signing a first load module with a first digital signature designating the first load module for use by a first device class;	A <i>first load module</i> is a WCEfA software component in a signed .PE file. The <i>first device class</i> is a device that only allows software designated as "restricted" (or higher) to be installed. "Restricted" software is software that has been certified. With restricted software, the device also implements a Security Layer functionality that limits the kernel and WCEfA API calls that the software can make.

	<p>“SIM Level: I = Restricted</p> <p>Description: Only properly certified CEI (WCEfA device installation) files can be installed on the device. Remote execution is restricted to executables with master key.</p> <p>Key: Logo certified CEI file required. CEI files or EXEs with master keys permitted.” (F, pg.1)</p> <p>“The kernel loader calls it each time a module is loaded by Windows CE. It returns one of the following values that determine the module’s access to kernel resources:</p> <table border="0" data-bbox="943 544 1569 1643"> <thead> <tr> <th data-bbox="943 544 1041 572">Value</th><th data-bbox="943 578 1041 606">Meaning</th></tr> </thead> <tbody> <tr> <td data-bbox="943 635 1286 663">OEM_CERTIFY_TRUST (2)</td><td data-bbox="943 669 1481 726">The module is trusted by the OEM to perform any operation.</td></tr> <tr> <td data-bbox="943 762 1253 789">OEM_CERTIFY_RUN (1)</td><td data-bbox="943 796 1449 853">The module is trusted by the OEM to run but is restricted from making certain function calls.</td></tr> <tr> <td data-bbox="943 889 1274 916">OEM_CERTIFY_FALSE (0)</td><td data-bbox="943 922 1302 950">The module is not allowed to run.</td></tr> </tbody> </table> <p>“(H, pg. 1)</p> <p><i>Digitally signing:</i> “Before the kernel loads a file, it uses the OEMCertifyModule function to verify that the file contains the proper signature.” (N, pg.1)</p> <p>“Signfile.exe: This tool signs an executable with a supplied private key. You can use the following command parameters with this tool....-s AttribString, specifies an optional attribute string to be included in the signature. For example, you could add a string to indicate the trust level of the application.” (O, Pg. 1)</p> <p>In the MSDN article <u>Verifying the Signature</u>, the sample code segment states</p> <pre>//the file has a valid signature //we expect the trust level to be returned as signed //data... //case 'R' : dwTrustLevel = OEM_CERTIFY_RUN" (N, pg.2)</pre> <p>“The WCEfA Security Layer isolates installed applications from making unrestricted kernel and WCEfA API calls. This allows the OEM to assign one of three levels of security to applications and drivers installed in RAM when they are loaded into the system. The three levels are Trusted..., Restricted..., and Blocked...On the systems level, the WCEfA Security</p>	Value	Meaning	OEM_CERTIFY_TRUST (2)	The module is trusted by the OEM to perform any operation.	OEM_CERTIFY_RUN (1)	The module is trusted by the OEM to run but is restricted from making certain function calls.	OEM_CERTIFY_FALSE (0)	The module is not allowed to run.
Value	Meaning								
OEM_CERTIFY_TRUST (2)	The module is trusted by the OEM to perform any operation.								
OEM_CERTIFY_RUN (1)	The module is trusted by the OEM to run but is restricted from making certain function calls.								
OEM_CERTIFY_FALSE (0)	The module is not allowed to run.								

	<p>layer fits between ISV applications and isolates these software modules from having free access to all WinCE kernel calls and WCEfA middleware APIs." (I, pg. 1)</p> <p>The developer submits their application for certification. If it passes, then the .cei file (a form of cab file) receives a certification key from the certifier. The signed PE is within this .cei file.</p>
<p>6 (b) digitally signing a second load module with 7 a second digital signature different from the 8 first digital signature, the second digital 9 signature designating the second load module for use by a second device class having at least one of tamper resistance and security level different from the at least one of tamper resistance and security level of the first device class;</p>	<p>A <i>second load module</i> is a WCEfA software component is a signed PE file. The <i>second device class</i> with a different tamper resistance or security level is a device that is "Closed", that is, it will not allow third party to software to be installed. A closed device only allows trusted software to run. The Security Layer setting of "Trusted" allows the Microsoft and OEM software full access to kernel and middleware APIs.</p> <p>In the MSDN article <u>Verifying the Signature</u>, the sample code segment states</p> <pre>//the file has a valid signature // we expect the trust level to be returned as signed data... //case 'T' : dwTrustLevel = OEM_CERTIFY_TRUST"</pre> <p>(N, pg.2)</p> <p>"Signfile.exe: This tool signs an executable with a supplied private key. You can use the following command parameters with this tool....-s AttribString, specifies an optional attribute string to be included in the signature. For example, you could add a string to indicate the trust level of the application. (O, Pg. 1)</p> <p>"SIM Level: 2 = Closed Description: Platform is limited to software supplied directly by OEM or Microsoft. Third-party applications cannot be installed. ... Key: Master key required for any install or remote execution." (F, pg.1)</p> <p>Related to the Security Layer, the Trusted level "is most likely reserved for MS and OEM applications and drivers." (I, pg. 1)</p> <p>Whereas the .cei files for certified software have a certification key (sometimes call MS Logo key), the .cei files from Microsoft or the OEM have a master key attached. ""Master key required for any install or remote execution." (F, p.g1)</p>
<p>27 (c) distributing the first load module for use by at least one device in the first device class; and</p>	<p><i>First load module</i> is the certified software from a third party that will be run as part of the "Restricted" <i>first device class</i>.</p> <p>"Once your application is complete, send the .cei file to</p>

	<p>the organization that is performing validation or certification for the OEM. They would validate it, then either reject or return a .cei that has been stamped with a certification key. You would then reproduce this .cei file on CD-ROM or a compact flash card and distribute." (D, pg 5)</p> <p>"APCLoad compares the device SIM level against the .cei file certification key, and either allows the installation to proceed or prohibits it based on the outcome of this comparison." (D, pg. 2)</p> <p>Security: To achieve a high level of reliability, WCEfA is carefully designed to:</p> <ul style="list-style-type: none"> - Control the installation of certified and tested software and drivers. - Limit the access of system services by installed module. - Monitor the proper execution of software..." <p>(G, pg. 1)</p>
(d) distributing the second load module for use by at least one device in the second device class.	<p>The <i>second load module</i> is the certified software from the OEM or Microsoft that will be run as part of the "Closed" <i>second device class</i>.</p> <p>"You may need to change ROM components after your device ships, either to fix a problem, or to provide enhanced functionality. For this purpose, the OEM is given a CEIBuild that adds a master key to a .cei file. CEI files stamped with this master key can be installed on an open, closed or a restricted platform." (D, pg. 3)</p> <p>"Trusted: The application is registered as a completely trusted module and allowed full access to the kernel APIs and WCEfA APIs. This mode is mostly likely reserved for MS and OEM applications and drivers. Note that applications and drivers included in ROM are automatically given trusted status." (I, pg.1)</p>

References:

- [D] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnceauto/html/WinCAuto_SIM.asp
- [F] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/ceibuildrev_8.asp
- [G] <http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/securityrev.asp>
- [H] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/securityrev_7.asp
- [I] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/reliabilityrev_3.asp
- [N] <http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcedsn40/htm/cgconVerifyingSignature.asp>
- [O] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wceoem/htm/os_secur_6.asp

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5.	Product infringing: Windows Hardware Quality Lab certification services, and operating system products that support driver signature technology.
A software verifying method comprising:	Microsoft encourages manufacturers to have their device drivers tested and signed. For example, only signed drivers will ship "in-the-box." Also, Microsoft's driver ranking prefers signed drivers to unsigned drivers.
	<u>Microsoft Web Page -- Can't Find a Test Category for Your Driver?</u>
	WHQL's long-term objective is to be able to digitally sign all drivers. Although we do not currently have test programs for certain driver types, such as specialized device drivers and software filter drivers, WHQL is investigating a long term solution to expand the categories of drivers tested under Windows 2000 and ultimately all Windows operating systems. We are already formulating a test program for anti-virus file system filters, and plan to address other file system filter drivers as soon as the initial program is in place.
(a) testing a load module	The driver will be tested for each version of the operating system it supports and against the device class specification that apply to the device's class.
	The driver package is a load module. A driver package contains one or more of the following files: A device setup information file (INF file) A driver catalog (.cat) file One or more optional co-installers
	Microsoft operates the Window Hardware Quality Lab, which tests drivers submitted by driver manufactures.
	The manufacturer can test their own driver using the Microsoft testing kit and submit the test results to WHQL when requesting a signature. Additionally, Microsoft or a testing facility working with Microsoft can perform the testing.
having at least one specification associated	The manufacturer-written INF file, which

1 therewith,	2 3 is part of the driver package, is a 4 specification. Microsoft Windows drivers 5 must have an INF file in order to be 6 installed.
7 the specification describing one or more 8 functions performed by the load module;	9 The INF Version section specifies its 10 device class. One use of the device class is 11 to identify the specific Windows 12 compatibility specification that relate to the 13 device class. These specifications will vary 14 by device class in part because the function 15 of each device can vary among class. The 16 INF incorporates by reference the 17 Microsoft supplied device class-specific 18 specification by identifying its class in the 19 INF.
	20 The INF can include operating system 21 "decorating" to specify the operating 22 system architecture, major and minor 23 version, product and suite the driver is 24 intended for and can further use this 25 decorating to specify what operating 26 systems for which it is not intended. 27 Because the functionality of each of the 28 operating systems may vary the driver must be tested for each applicable operating system.
	29 <u>Qualification Service Policy Guide –</u> 30 <u>Hardware Category Policies</u> 31 You must select the correct hardware 32 category for your device. If you select the 33 wrong hardware category for your device, 34 your submission will fail. For example, if 35 you have a storage/hard drive device, but 36 you select storage/tape drive as your 37 hardware category, your submission will 38 fail. 39 Windows XP HCT 10.0 Q & A – Windows 40 XP Logos 41 Q: Which "Designed for Windows XP" 42 logos are available for my product? 43 A: Devices and systems qualify for a 44 "Designed for Windows" logo after passing 45 testing with the appropriate WHQL test kit 46 on all operating systems specified by the 47 logo. "Designed for Windows" Logos for Device 48 and System Programs lists which logos are 49 available for each type of product.
(b) verifying that the load module satisfies the specification; and	50 The Microsoft WindowsXP Hardware 51 Compatibility Test (HCT) kit version 10.0 52 includes the tests, test documentation, and

	<p>1 submission processes that are required to 2 participate in the Microsoft Windows Logo 3 Program for Hardware for the Windows 4 XP Professional operating system. To 5 qualify to use the "Designed for Windows." 6 logo for hardware, products must pass 7 testing with the Microsoft Windows HCT 8 kit. The HCT kits are organized by 9 hardware type.</p> <p>10 As mentioned above, the manufacturer can 11 test their own driver using the Microsoft 12 testing kit and submit the test results to 13 WHQL when requesting a signature. 14 Additionally, Microsoft or a testing facility 15 working with Microsoft can perform the 16 testing.</p>
(c) issuing at least one digital certificate attesting to the results of the verifying step.	<p>17 When a driver package passes WHQL 18 testing, WHQL generates a separate CAT 19 file containing a hash of the driver binaries 20 and other relevant information. WHQL 21 then digitally signs the CAT file using 22 Digital Signature cryptographic technology 23 and sends it to the vendor. Driver signing 24 does not change the driver binaries or the 25 INF file submitted for testing.</p> <p>26 Microsoft uses digital signatures for device 27 drivers to let users know that drivers are 28 compatible with Microsoft Windows XP, Windows 2000, and Windows Me. A driver's digital signature indicates that the driver was tested with Windows for compatibility and has not been altered since testing.</p>

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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
14.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A first protected processing environment comprising: a first tamper resistant barrier having a first security level, and	A personal computer running Windows XP, Windows 2000, or Windows 2003 The tamper resistant barrier is the Office 2003 IRM client environment and includes the signed digital certificate identifying the user. If the certificate is tampered with, or if certain, sensitive IRM processes or modules are debugged or tampered with, the system will cease to operate. The first security level is the "Security Level" which has been selected for a particular Office Application, e.g., Word.
at least one arrangement within the first tamper resistant barrier that prevents the first protected processing environment from executing the same load module accessed by a second protected processing environment having a second tamper resistant barrier with a second security level different from the first security level.	The arrangement that prevents a load module from running in one PPE and not in another is the type and characteristics of a particular Load Module (VBA program within a document or add-in); i.e., signed, script author, code capabilities, etc., and the "Security Level" settings.
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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
18.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A method for protecting a first computing arrangement surrounded by a first tamper resistant barrier having a first security level, the method including:	The first computing arrangement with a tamper resistant barrier is the Office 2003 IRM client environment and includes the signed digital certificate identifying the user. If the certificate is tampered with, or if certain, sensitive IRM processes or modules are debugged or tampered with, the system will cease to operate.
	The computing arrangement is being protected from; for example, viruses and malicious code.
	The first security level is the "Security Level" which has been selected for a particular Office Application, e.g., Word.
preventing the first computing arrangement from using the same software module accessible by a second computing arrangement having a second tamper resistant barrier with a second security level different from the first security level.	The arrangement that prevents a load module from running in one computing arrangement and not in another is the type and characteristics of a particular software module (VBA program within a document or add-in); i.e., signed, script author, code capabilities, etc., and the "Security Level" settings.
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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
34.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A protected processing environment comprising: a first tamper resistant barrier having a first security level,	A personal computer running Windows XP, Windows 2000, or Windows 2003 The first tamper resistant barrier is the Office 2003 IRM client environment and includes the signed digital certificate identifying the user. If the certificate is tampered with, or if certain, sensitive IRM processes or modules are debugged or tampered with, the system will cease to operate. The first security level is the "Security Level" which has been selected for a particular Office Application, e.g., Word.
a first secure execution space, and	The secure execution space is process space allocated by the operating system for the Microsoft Office host application to run. This host application (e.g., Word) executes the VBA code within this process space. This execution space (application) is secure because the IRM environment takes steps to insure that it is "trusted", the application is signed, and the document which includes the VBA code is protected by IRM policy and then encrypted and signed.
at least one arrangement within the first tamper resistant barrier that prevents the first secure execution space from executing the same executable accessed by a second secure execution space having a second tamper resistant barrier with a second security level different from the first security level.	The arrangement that prevents a load module from running in one computing arrangement and not in another is the type and characteristics of a particular software module (VBA program within a document or add-in); i.e., signed, script author, code capabilities, etc., and the "Security Level" settings.

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4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 34.	Product Infringing: Microsoft Common Language 7 Runtime and ASP.NET
8 A protected processing environment 9 comprising: 10 a first tamper resistant barrier having a 11 first security level,	Microsoft Common Language Runtime and 12 ASP.NET 13 TAMPER RESISTANT BARRIER 14 The first tamper resistant barrier is the application 15 domain in the CLR. The runtime hashes the 16 contents of each file loaded into the application 17 domain and compares it with the hash value in the 18 manifest. If two hashes don't match, the assembly 19 fails to load.[1] Also " <i>Code running in one application cannot directly access code or resources from another application. The common language runtime enforces this isolation by preventing direct calls between objects in different application domains. Objects that pass between domains are either copied or accessed by proxy.</i> "[2]
20	SECURITY LEVELS
21	The security levels of the application domain if 22 different by setting the trust level assigned to an 23 outside application using the "trust" element in the 24 web.config for the ASP.NET application. 25 Syntax- 26 <trust level="Full/High/Low/None" 27 originUrl="url"/> 28 Example- 29 <trust level="High" 30 originUrl="http://www.SomeOtherCompany.com/defaul 31 t.aspx"/> 32 [7]
33 a first secure execution space, and	The application domain is the execution space for a 34 particular application.
35 at least one arrangement within the first 36 tamper resistant barrier that prevents the 37 first secure execution space from 38 executing the same executable accessed 39 by a second secure execution space 40 having a second tamper resistant barrier 41 with a second security level different from 42 the first security level.	The second secure execution space is another 43 application domain that has a different trust level for 44 an outside application. 45 If second app domain gives Full trust to the outside 46 application; whereas the first one doesn't, the first 47 app domain won't be able to execute the application 48 that requires full trust permission.
49	References: 50 [1]

1		www.microsoft.com/germany/ms/msdnbiblio/do tnetrk/doc/assembly.doc
2		[2] msdn.Microsoft.com/library/en- us/cpguide/html/ cpconapplicationdomainsoverview.asp?frame=tr ue
3		[7] LaMacchia,etc, <u>.NET Framework Security</u> , Addision-Wesley, 2002
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4 CLAIM LANGUAGE	4 CLAIM OF INFRINGEMENT
5 34.	Product Infringing: Products containing 6 Microsoft Common Language Runtime or 7 Compact Common Language Runtime and 8 products implementing the Common Language 9 Infrastructure specification.
10 A protected processing environment 11 comprising: 12 a first tamper resistant barrier having a first 13 security level,	Microsoft Common Language Runtime and 14 .NET Framework SDK: 15 TAMPER RESISTANT BARRIER 16 The first tamper resistant barrier is the 17 application domain in the CLR. The runtime 18 hashes the contents of each file loaded into the 19 application domain and compares it with the 20 hash value in the manifest. If two hashes don't 21 match, the assembly fails to load. [1] Also " <i>Code running in one application cannot directly access code or resources from another application. The common language runtime enforces this isolation by preventing direct calls between objects in different application domains. Objects that pass between domains are either copied or accessed by proxy.</i> " [2]
22	SECURITY LEVELS
23	Application domains have different security 24 levels by setting security policy of the 25 application domain programmatically. [3] 26 " <i>It has different security based on code-based 27 security model of .NET. Administrators and 28 hosts use code-access security to decide what code can do, based on characteristics of the code itself, regardless of what user is executing the code. The code characteristics are called evidence and can include the Web site or zone from which the code was downloaded, or the digital signature of the vendor who published the code.</i> " " <i>When the security manager needs to determine the set of permissions that an assembly is granted by security policy, it starts with the enterprise policy level. Supplying the assembly evidence to this policy level will result in the set of permissions granted from that policy level. The security manager typically continues to collect the permission sets of the policy levels below the enterprise policy [including the app domain] in the same</i>

	<p>fashion. These permission sets are then intersected to generate the policy system permission set for the assembly. All levels must allow a specific permission before it can make it into the granted permission set for the assembly.”</p> <p>Example of granted permission sets from a policy –</p> <p><i>Condition: All code, Permission Set: Nothing</i></p> <p><i>Condition: Zone: Internet, Permission Set: Internet Condition: URL: www.monash.edu.au, Permission Set: MonashPSet</i></p> <p><i>Condition: Strong Name: m-Commerce, Permission Set: m-CommercePSet [4]</i></p> <p>Another difference in security levels can be whether the verification process is turned off or on, “<i>Managed code must be passed through a verification process before it can be run (unless the administrator has granted permission to skip the verification). The verification process determines whether the code can attempt to access invalid memory addresses or perform some other action that could cause the process in which it is running to fail to operate properly. Code that passes the verification test is said to be type-safe. The ability to verify code as type-safe enables the common language runtime to provide as great a level of isolation as the process boundary, at a much lower performance cost.</i>” [5]</p>
19 20 21 22 23 24	<p>a first secure execution space, and</p> <p>at least one arrangement within the first tamper resistant barrier that prevents the first secure execution space from executing the same executable accessed by a second secure execution space having a second tamper resistant barrier with a second security level different from the first security level.</p>
25 26 27 28	<p>The application domain is the execution space for a particular application.</p> <p>The second secure execution space is another application domain that has a different security policy than the first.</p> <p>If second app domain’s security policy doesn’t give any permission to code from internet zone, but first app domain does, then the code would run in first app domain and not in second.[6]</p> <p>References:</p> <ul style="list-style-type: none"> [1] www.microsoft.com/germany/ms/msdnbiblio/dotnetrk/doc/assembly.doc [2] msdn.Microsoft.com/library/en-us/cpguide/html/cpconapplicationdomainsoverview.asp?frame=true

1	[3] LaMacchia,etc, .NET Framework Security, Addison-Wesley, 2002, p.113
2	[4] Watkins, Demien, "An Overview of Security in the .NET Framework", from MSDN Library, January 2002
3	[5] same as [2]
4	[6] msdn.Microsoft.com/library/en- us/cpguide/html/ cpconapplicationdomainlevelsecuritypolicy .asp?frame=true
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3	CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
4	38.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
5	A method for protecting a first computing arrangement surrounded by a first tamper resistant barrier having a first security level, the method including:	The first computing arrangement surrounded by a tamper resistant barrier is the Office 2003 IRM client environment and includes the signed digital certificate identifying the user. If the certificate is tampered with, or if certain, sensitive IRM processes or modules are debugged or tampered with, the system will cease to operate.
6		The first security level is the "Security Level" which has been selected for a particular Office Application, e.g., Word.
7	preventing the first computing arrangement from using the same software module accessed by a second computing arrangement having a second tamper resistant barrier with a second security level different from the first security level.	The computing arrangement that prevents a software module from running in one computing arrangement and not in another is the type and characteristics of the particular software module (VBA program within a document or add-in); i.e., signed, script author, code capabilities, etc., and the "Security Level" settings.
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CLAIM LANGUAGE	SPECIFIC CLAIM OF INFRINGEMENT
2.	Product Infringing: Windows Media Rights Manager and Windows Media Player
A system including:	
(a) a first apparatus including,	Consumer's computer, as shown in WMRM SDK
(1) user controls,	Consumer's computer, as shown in WMRM SDK
(2) a communications port,	Consumer's computer, as shown in WMRM SDK
(3) a processor,	Consumer's computer, as shown in WMRM SDK
(4) a memory storing:	Consumer's computer, as shown in WMRM SDK
(i) a first secure container containing a governed item, the first secure container governed item being at least in part encrypted; the first secure container having been received from a second apparatus;	Secure container (packaged Windows Media file), received by consumer's computer from "Content provider" (WMRM SDK, Step 3), which contains encrypted governed item ("Encrypted content")
(ii) a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item, the first secure container rule [sic], the first secure container rule having been received from a third apparatus different from said second apparatus; and	Rights portion of signed license, received by consumer's computer from "License issuer" (WMRM SDK, Step 9)
(5) hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	Windows Media Player and Windows Media Rights Manager
(6) a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	1st and 2nd rules consist of any two valid rules as specified in the Window Media Rights Manager SDK; protected processing environment includes Windows Media Rights Manager and Windows processes for protecting operation of Windows Media Rights Manager. Licenses can be used to convey multiple rules.
(7) hardware or software used for	Any hardware or software employed in

1	transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	transmitting Windows Media files, including for example consumer's computer's communication port and Windows Media Player (WMRM SDK, Step 3)
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3 4 5 6 7 8 9 10 11 12 13 14	CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
2.		Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A system including:		
a first apparatus including,		A device with user controls, a communications port, a processor and memory. For example,
user controls,		the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may
a communications port,		be a CPU, and the memory may be a hard-drive or RAM.
a processor,		
a memory storing:		
a first secure container containing a governed item, the first secure container governed item being at least in part encrypted; the first secure container having been received from a second apparatus;		An encrypted IRM-governed email received from a remote computer. The encrypted IRM-governed email contains an encrypted IRM-governed email message.
a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item, the first secure container rule, the first secure container rule having been received from a third apparatus different from said second apparatus; and		The first secure container rule is received from the RMS server in the form of a use license.
hardware or software used for receiving and opening secure containers,		This use license contains rules generated by the RMS server specifically for the user (or user's group)
said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;		The RM-enabled device contains hardware or software for receiving and opening secure emails.
a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus,		The secure email has the capacity to contain an IRM-governed email message, with a rule being associated with each email.
said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of		The rules associated with the secure emails are rules that come as part of the original email as well as rules that come back from the RMS.
		Protected information on the RM-enabled device is protected by the use of at least cryptographic techniques.

1	access to or use of a governed item contained in a secure container; and	received together with the rule in the use license.
3	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	The device includes hardware or software used for transmitting or receiving secure emails. For example, RM-enabled OUTLOOK is designed to transmit and receive encrypted IRM- governed emails to/from other devices.
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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
2.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A system including: a first apparatus including, user controls, a communications port, a processor, a memory storing: a first secure container containing a governed item, the first secure container governed item being at least in part encrypted; the first secure container having been received from a second apparatus;	A device with user controls, a communications port, a processor, and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM. The first secure container is an encrypted IRM-protected document. This encrypted IRM-governed document is, for example, received from a remote computer, as an attachment to an IRM-governed email or downloaded from a document server or web site.
a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item, the first secure container rule, the first secure container rule having been received from a third apparatus different from said second apparatus; and hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The first secure container rule is received from the RMS server in the form of a use license. This use license contains rules generated by the RMS server specifically for the user (or user's group). The RM-enabled device contains hardware or software for receiving and opening secure documents. The secure documents have the capacity to contain IRM-governed content, with a rule being associated with each secure document. The rules associated with said secure documents are the rules that come as part of the originally received document as well as rules that come back from the RMS server.
a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus,	Protected information on the RM-enabled device is protected by the use of at least cryptographic technique. The rule governing the document works

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	together with an additional rule to determine what access to or use (if any) are allowed with respect to the IRM-governed document. For example, the additional rule may be associated with an email to which the document was attached, or received together with the rule in the use license.
5 6 7 8	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	The device includes hardware or software used for transmitting or receiving secure documents. For example, RM-enabled OUTLOOK is designed to transmit and receive to/from other devices emails with IRM-governed documents attached thereto.
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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
3.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A system including: a first apparatus including, user controls, a communications port, a processor, a memory storing:	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	The first secure container containing a governed item is an IRM protected email. Both the email and attachment are IRM protected, each having their own rules, each being encrypted.
a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and	The rule governing the email (a first secure container rule) governs said first secure container governed item.
a second secure container containing a digital certificate;	The second secure container is the IRM protected attachment's derived license request object. The license request object contains the Publishing license and a signed digital certificate.
hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for	Protected information on the RM-enabled computer is protected by the use of at least cryptographic techniques. The rules governing the email itself (first

1	applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	secure container rule) and the rules governing the attachment work together to determine what access to or use (if any) will be allowed with respect to the governed item.
4	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	IRM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.

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1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
3.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A system including: a first apparatus including, user controls, a communications port, a processor, a memory storing:	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	The first secure container containing a governed item is an IRM protected document, which is an attachment within an IRM protected email message. The governed item is the document's content.
a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and	Both the email message and attachment are encrypted and have associated usage rules due to IRM protection.
a second secure container containing a digital certificate;	A use license for the IRM protected document specifies rules governing access to or use of said first secure container governed item. The second secure container is the IRM protected email message.
	The IRM protected attachment includes a publishing license and an owner certificate, both of which are signed XrML digital certificates.
	The attachment (including embedded certificates) is contained within the IRM protected email message (said second secure container).
hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers:	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
a protected processing environment at least in part protecting information contained in said protected processing environment from	Protected information on the RM-enabled computer is protected by the use of at least cryptographic techniques.

1	tampering by a user of said first apparatus,	
2	said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	The rules governing the attachment (first secure container rule) and the rules governing the email message (second secure container rule) work together to determine what access to or use (if any) will be allowed with respect to the governed item.
6	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	RM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.
8	4. A system as in claim 3,	
9	said memory storing a rule associated with said second secure container, said rule associated with said second secure container at least in part governing at least one aspect of access to or use of said digital certificate.	All parts of the attachment (including embedded signed XML licenses/certificates) are protected by the enclosing email message and governed by the associated email rules (second secure container rule).
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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
5.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A system including: a first apparatus including, user controls, a communications port, a processor, a memory storing:	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	first secure container containing a governed item is an IRM protected email. Both the email and attachment are IRM protected, each having their own rules, each being encrypted.
a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and	The rule governing the email (a first secure container rule) governs said first secure container governed item.
a second secure container containing a digital signature, the second secure container being different from said first secure container;	The second secure container is the IRM protected attachment's derived license request object. The license request object contains the Publishing license and a signed digital certificate.
hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for applying said first secure container rule and a	Protected information on the RM-enabled computer is protected by the use of at least cryptographic techniques. The rules governing the email itself (first secure container rule) and the rules governing

1	second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	the attachment will work together to determine what access to or use (if any) will be allowed with respect to the governed item.
2	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	RM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.
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4	CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
5.		Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
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7	A system including: a first apparatus including, user controls, a communications port, a processor, a memory storing:	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse; the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
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12	a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	first secure container containing a governed item is an IRM protected email.
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14		Both the email and attachment are IRM protected, each having their own rules, each being encrypted.
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16	a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and	The rule governing the email (a first secure container rule) governs said first secure container governed item.
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18	a second secure container containing a digital signature, the second secure container being different from said first secure container;	The second secure container is the IRM email attachment. This attachment and its publishing license are signed.
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21	hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
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25	a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus,	Protected information on the RM-enabled computer is protected by the use of at least cryptographic techniques.
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27	said protected processing environment including hardware or software used for applying said first secure container rule and a	The rules governing the email itself (first secure container rule) and the rules governing
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1	second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	the attachment work together to determine what access to or use (if any) will be allowed with respect to the governed item.
5	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	RM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.

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1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
5.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
7 A system including: 8 a first apparatus including, 9 user controls, 10 a communications port, 11 a processor, 12 a memory storing:	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
13 a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	The first secure container containing a governed item is an IRM protected document, which is an attachment within an IRM protected email message. The governed item is the document's content.
17 a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and 18 a second secure container containing a digital signature, the second secure container being different from said first secure container;	Both the email message and attachment are encrypted and have associated usage rules due to IRM protection. A use license for the IRM protected document specifies rules governing access to or use of said first secure container governed item.
25 hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The second secure container is the IRM protected email message. The IRM protected attachment includes a publishing license and an owner certificate, both of which are signed XML digital certificates. The attachment (including embedded certificates) is contained within the IRM protected email message (said second secure container).
28 a protected processing environment at least in part protecting information contained in said	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers. Protected information on the RM-enabled computer is protected by the use of at least

1 2 3 4 5 6 7 8 9 10 11	<p>protected processing environment from tampering by a user of said first apparatus,</p> <p>said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and</p>	<p>cryptographic techniques.</p>
		The rules governing the attachment (first secure container rule) and the rules governing the email message (second secure container rule) work together to determine what access to or use (if any) will be allowed with respect to the governed item.
	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	RM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.
	6. A system as in claim 5, said memory storing a rule at least in part governing an aspect of access to or use of said digital signature.	All parts of the attachment (including embedded signed XML licenses/certificates) are protected by the enclosing email message and governed by the associated email rules (second secure container rule).
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1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
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4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 28.	Infringing products include Office 2003 and 7 included applications, and Server 2003, 8 including Microsoft hosted RMS Service using 9 Passport
10 A system including: 11 a first apparatus including; 12 user controls, 13 a communications port, 14 a processor, 15 a memory containing a first rule, 16 hardware or software used for receiving and 17 opening secure containers, 18 said secure containers each including the 19 capacity to contain a governed item, a secure 20 container rule being associated with each of 21 said secure containers; 22 a protected processing environment at least in 23 part protecting information contained in said 24 protected processing environment from 25 tampering by a user of said first apparatus, 26 said protected processing environment 27 including hardware or software used for 28 applying said first rule and a secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item; and hardware or software used for transmission of	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM. The first rule governs use of an IRM protected document (e.g., an IRM rule permitting a document to be read by specified users or barring access to IRM-governed information from specified users, applications, or other principals). The RM-enabled device contains hardware or software for receiving and opening secure containers. The secure email has the capacity to contain an IRM-governed email message, with a rule being associated with each email. Protected information on the RM-enabled device is protected by the use of at least cryptographic techniques. The secure container rule is an IRM rule governing access to the IRM protected document (e.g., a rule permitting editing by specified users). The rule governing the email works together with an additional rule to determine what access to or use (if any) are allowed with respect to the IRM-governed email message (the document's content). For example, the additional rule may be received together with the rule in the use license, may be associated with a publishing license, may be associated with user certification, revocation lists, or exclusion policies, or may be received from any other source.
	The device includes hardware or software used

1	secure containers to other apparatuses or for the receipt of secure containers from other apparatuses; and	for transmitting or receiving secure containers. For example, RM-enabled OUTLOOK is designed to transmit and receive encrypted IRM-governed emails to/from other devices.
2	a second apparatus including: 4 user controls, 5 a communications port, 6 a processor, 7 a memory containing a second rule,	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse; the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
8		The second rule governs use of an IRM protected document (e.g., an IRM rule permitting a document to be read by specified users or barring access to IRM-governed information from specified users, applications, or other principals).
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11	hardware or software used for receiving and opening secure containers,	The RM-enabled device contains hardware or software for receiving and opening secure containers.
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13	said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The secure email has the capacity to contain an IRM-governed email item, with a rule being associated with each secure containers.
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15	a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said apparatus,	Protected information on the RM-enabled device is protected by the use of at least cryptographic technique.
16		
17	said protected processing environment including hardware or software used for applying said second rule and a secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item;	The secure container rule is an IRM rule governing access to the IRM protected document (e.g., a rule permitting editing by specified users).
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25	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses; and	The device includes hardware or software used for transmitting or receiving secure containers. For example, RM-enabled OUTLOOK is designed to transmit and receive encrypted IRM-governed emails to/from other devices.
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27	an electronic intermediary, said intermediary including a user rights authority clearinghouse.	The RMS Server (Microsoft hosted or otherwise) constructs a 'use license' specific to a piece content and targets it to a specific user.
28		

1	29. A system as in claim 28, said user rights	The RMS server sends <i>use licenses</i> to users
2	authority clearinghouse operatively connected	through a communications port, e.g., Ethernet,
3	to make rights available to users.	serial, satellite, "the internet"
4		These use licenses include rights.
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5 28.	6 Product Infringing: Windows Media Rights 7 Manager and Windows Media Player
8 A system including:	9
10 (a) a first apparatus including;	11 Consumer's computer, as shown in WMRM 12 SDK
13 (1) user controls,	14 Consumer's computer, as shown in WMRM 15 SDK
16 (2) a communications port,	17 Consumer's computer, as shown in WMRM 18 SDK
19 (3) a processor,	20 Consumer's computer, as shown in WMRM 21 SDK
22 (4) a memory containing a first rule,	23 Memory is in the consumer's computer, first 24 rule is a right received as part of a signed 25 license (WMRM SDK, Step 9)
26 (5) hardware or software used for 27 receiving and opening secure 28 containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	29 Consumer's computer receives Windows 30 Media file (secure container) via 31 communications port (WMRM SDK, Step 3) 32 and applies secure container rule or rules via 33 Windows Media Player and Windows Media 34 Rights Manager.
35 (6) a protected processing environment at 36 least in part protecting information 37 contained in said protected processing 38 environment from tampering by a 39 user of said first apparatus, said 40 protected processing environment 41 including hardware or software used 42 for applying said first rule and a 43 secure container rule in combination 44 to at least in part govern at least one 45 aspect of access to or use of a 46 governed item; and	47 Processing environment includes Windows 48 Media Rights Manager and Windows 49 processes for protecting operation of Windows 50 Media Rights Manager
51 (7) hardware or software used for 52 transmission of secure containers to 53 other apparatuses or for the receipt of 54 secure containers from other 55 apparatuses; and	56 Hardware or software employed in transmitting 57 Windows Media files, including for example 58 consumer's computer's communication port 59 and Windows Media Player (WMRM SDK, 60 Step 3)
61 (b) a second apparatus including:	62 2nd consumer's computer
63 (1) user controls,	64 2nd consumer's computer
65 (2) a communications port,	66 2nd consumer's computer
67 (3) a processor,	68 2nd consumer's computer
69 (4) a memory containing a second rule,	70 Memory is in the 2nd consumer's computer, 71 first rule is a Right received as part of a signed 72 license (WMRM SDK, Step 9)
73 (5) hardware or software used for 74 receiving and opening secure 75 containers, said secure containers 76 each including the capacity to contain	77 2nd consumer's computer receives Windows 78 Media file (secure container) via 79 communications port (WMRM SDK, Step 3) 80 and applies secure container rule or rules via

1	a governed item, a secure container rule being associated with each of said secure containers;	Windows Media Player and Windows Media Rights Manager.
2	(6) a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said apparatus; said protected processing environment including hardware or software used for applying said second rule and a secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item;	Processing environment includes Windows Media Rights Manager and Windows processes for protecting operation of Windows Media Rights Manager; processing environment applies multiple rules in combination
3	(7) hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses; and	Hardware or software employed in transmitting Windows Media files, including for example 2 nd consumer's computer's communication port and Windows Media Player (WMRM SDK, Step 3)
4	(c) an electronic intermediary, said intermediary including a user rights authority clearinghouse.	License Issuer
5	29. A system as in claim 28, said user rights authority clearinghouse operatively connected to make rights available to users.	License Issuer, operatively connected to consumer's computer (WMRM SDK, Step 9)
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3 CLAIM LANGUAGE	4 CLAIM OF INFRINGEMENT
5 56.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
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7 A method of securely delivering an item, including the following steps:	
8 performing an authentication step;	The RM-enabled application, e.g., Word, OUTLOOK, PowerPoint, etc., must be authenticated before it is allowed access to or use of the content.
9	
10 associating a digital signature with said item;	The RM protected content is signed.
11 incorporating said item into a first secure electronic container, said item being at least in part encrypted while in said container,	RM-protected content is packaged with rules and encrypted.
12	
13 said incorporation occurring in an apparatus containing a first protected processing environment, said protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said apparatus;	Protected information on the RM enabled computer is protected by the use of at least cryptographic techniques.
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16 in said protected processing environment, associating a first rule with said first secure electronic container, said first rule at least in part governing at least one aspect of access to or use of said item;	The IRM-protected document (said item) has an associated rule or rules.
17	
18 authenticating an intended recipient of said item;	A recipient of IRM-protected content must be authenticated before being allowed access to or use of the content.
19	
20 transmitting said first secure electronic container and said first rule to said intended recipient; and	The document is sent via IRM-protected email as an attachment.
21	
22 using a second protected processing environment, providing said intended recipient access to at least a portion of said item,	The email is received at another IRM-enabled computer.
23	
24 said access being governed at least in part by said first rule and by a second rule present at said intended recipient's site.	The first said rule is the rule(s) associated with the attached document, and the second rule is the rule(s) received that govern the email itself.
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2 INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
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7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	126. A method of providing trusted intermediary services including the following steps: at a first apparatus, receiving an item from a second apparatus; associating authentication information with said item; incorporating said item into a secure digital container; associating a first rule with said secure digital container, said first rule at least in part governing at least one aspect of access to or use of said item;	Product Infringing: Windows Hardware Quality Labs Authentication services, Windows operating Systems (such as Windows XP) that support the driver signing features, and any product using Driver Signing feature Microsoft's Window Hardware Quality Labs (WHQL) (first apparatus) receiving driver package (item) from independent hardware vendor (IHV) or any driver developer (second apparatus). The signature information of a security catalog file (see next element of claim) names Microsoft as the publisher. WHQL's signature is intended to signify that a driver has complied with Microsoft's Windows compatibility and/or Secure Audio Path (SAP) specifications. The hashes of the files making up the driver package are included in the signed security catalog file for the driver package. The catalog file makes the driver package a secure digital container. Driver developers specify rules in an INF file that govern the installation and/or use of the driver. For example, as specified in the INF, the installation events will vary based on the user's operating system version, which includes architecture, product type and suite. The INF logging rules and can further specify security rules that are evaluated when the driver is used. White Paper – Operating-System Versioning for Drivers under Windows XP Setup selects the [Models] section to use based on the following rules: If the INF contains [Models] sections for several major or minor operating system version numbers, Setup uses the section with the highest version numbers that are not higher than the operating system version on which the installation is taking place.
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If the INF [Models] sections that match the operating system version also include product type decorations, product suite decorations, or both, then Setup selects the section that most closely matches the running operating system.

Suppose, for example, Setup is running on Windows XP Professional (which is operating system version 5.1), and it finds the following entry in a [Manufacturer] section:

```
%FooCorp% = FooMfg, NT, NT.5, NT.5.5,  
NT....0x80
```

In this case, Setup will look for a [Models] section named [FooMfg.NT.5]. Setup will also use the [FooMfg.NT.5] section if it is running on a Datacenter version of Windows .NET Server, because a specific major/minor version takes precedence over the product type and suite mask.

For example, to create an INF that is intended for use only on Windows XP, the INF file could contain the following:

```
[Manufacturer]  
"Foo Corp." = FooMfg, NT.5.1, NT.5.2  
[FooMfg.NT.5.1]  
"Foo Device" = FooDev, *FOO1234
```

Note the omission of the undecorated [FooMfg] section, as well as the omission of the [FooMfg.NT.5.2] section. This INF file would appear to be "empty" on any operating system other than Windows XP.

Access Control List Rules

XP DDK – Tightening File-Open Security in a Device INF File

For Microsoft Windows 2000 and later, Microsoft tightened file-open security in the class installer INFs for certain device classes, including CDROM, DiskDrive, FDC, FloppyDisk, HDC, and SCSIAdapter.

If you are unsure whether the class installer for your device has tightened security on file opens, you should tighten security by using the device's INF file to assign a value to the **DeviceCharacteristics** value name in the registry. Do this within an *add-*

	<p><i>registry-section</i>, which is specified using the INF AddReg directive.</p> <p>transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus;</p> <p>Microsoft, IHV, driver developer or any other party distributing signed driver packages transmitting the driver package to user (third apparatus). Since the driver package includes the INF file, it will include the first rule. The protected processing environment (PPE) is Windows operating system with its pertinent services such as Windows File Protection, signature and cryptographic functions, Plug and Play and Set-up and their related default and modifiable policies. The PPE checks for signatures on driver packages and detects situations when the driver package's signature does not match the driver package.</p> <p>Additionally, the Digital Rights Manager (DRM) components (kernel and client) will contribute to making the third apparatus a PPE when the SAP functionality is invoked. [That is, when SAP is required, an additional signature is checked to verify that the driver is SAP compliant and that it hasn't been tampered with.]</p>
said third apparatus receiving said secure digital container and said first rule;	The end-user receiving the driver package.
said third apparatus checking said authentication information; and	A step in the Plug and Play/Setup driver installation process checks signature at installation. Additionally, the DRM component will check the DRM signature when invoking DRM functionality.

White Paper – Driver Signing for Windows

During driver installation, Windows compares the hashes contained in the driver's CAT file with the computed hash of the driver binaries to determine whether the binaries have changed since the CAT file was created. If a driver fails the signature check or there is no CAT file, what happens next depends on the driver signing policy in effect on the user's system:

If the policy is set to Ignore, the driver installs silently, with no message to the user.

If the policy is set to Warn, a message warns the user the driver is unsigned, which means that it has not passed WHQL

	<p>1 testing and might cause problems. The 2 Warn dialog box gives an administrative 3 user the option to override the warning and 4 install an unsigned driver anyway. 5</p> <p>If the policy is set to Block, the system 6 displays a message that informs the user 7 that the driver cannot be installed because 8 it is not digitally signed.</p>
<p>9 said third apparatus performing at least one 10 action on said item, said at least one action 11 being governed, at least in part, by said 12 first rule and by a second rule resident at 13 said third apparatus prior to said receipt of 14 said secure digital container and said first 15 rule, said action governance occurring at 16 least in part in said protected processing 17 environment.</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p>	<p>The action would be installing and/or using 1 the driver. For example, installation 2 policies govern the actions (ignore, warn or 3 block) taken based on whether a driver is 4 signed or not and these policies (rule) are 5 resident on the third apparatus. Another 6 rule is the "ranking" of available drivers 7 when selecting a driver to install. This 8 ranking process includes whether a driver 9 is signed or not. Another rule is the 10 security access rules that the class installer 11 that will be used to install the device has.</p> <p>In the case of DRM, the content will have 12 associated rules governing its use in a SAP- 13 compliant environment. These rules (the 14 content license) can be resident at the third 15 apparatus particularly in the case when a 16 user is installing a new (SAP-compliant) 17 device that will render previously acquired 18 content or in the case that acquired content 19 cannot be rendered until the user installs 20 required drivers.</p> <p>For example, when installing:</p> <p>The XP driver ranking process and the 1 modifiable default related to signature state 2 of the driver act as the second rule.</p> <p>The driver will be installed only if the first 3 and second rules validate.</p> <p><u>Operating-System Versioning for Drivers under Windows XP</u></p> <p><i>Default System Policy for Unsigned Drivers</i></p> <p>If the user installs an unsigned driver for a 1 designated device class from disk or from 2 another web site, Windows XP/Windows 3 2000 displays a warning that the driver is 4 unsigned, thus helping to preserve the 5 integrity of the released system. However, 6 by default, Windows XP/Windows 2000</p>

1 does not block installation of unsigned
2 drivers, so vendors can get urgent hot-fixes
3 to customers while waiting for WHQL to
4 test the fix.

5
6 In Windows XP, the default driver signing
7 policy can be changed through the
8 Hardware tab of the System applet on the
9 Control Panel. A user can change the
10 policy to be more restrictive, but not less
11 restrictive on a per-user basis (that is, a
12 user can change Warn to Block, but not to
13 Ignore). An administrator can change the
14 policy to be either more restrictive or less
15 restrictive for all users on the system by
16 checking "Apply the setting as system
17 default."

18 *Driver Ranking*

19 Under Windows XP, the driver ranking
20 strategy has been modified as follows:

21 If an INF file is unsigned, and if neither the
22 [Models] section nor the [DDInstall]
23 section is decorated with an NT-specific
24 extension, the INF file is considered
25 "suspect" and its rank is shifted into a
26 higher range (that is, worse) than all
27 hardware and compatible rank matches of
28 INF files for which one (or both) of those
29 criteria are met.

30 The new ranking ranges will now be:

31 0 – 0xFFFF
32 (DRIVER_HARDWAREID_RANK) :
33 "trusted" hardware-ID match
34 0x1000 – 0x3FFF : "trusted" compatible-
35 ID match
36 0x8000 – 0x8FFF : "untrusted" hardware-
37 ID match
38 0x9000 – 0xBFFF : "untrusted"
39 compatible-ID match
40 0xC000 - 0xCFFF : "untrusted"
41 undecorated hardware-ID match (possibly a
42 Windows 9x-only driver)
43 0xD000 - 0xFFFF : "untrusted"
44 undecorated compatible-ID match
45 (possibly a Windows 9x-only driver)

46
47 127. A method as in claim 126, in which
48 said authentication information at least in
49 part identifies said first apparatus and/or a

50 The authentication information will
51 identify Microsoft, operator of the first
52 apparatus.

1 user of said first apparatus.

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1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	126. A method of providing trusted intermediary services including the following steps: at a first apparatus, receiving an item from a second apparatus; associating authentication information with said item;	Products Infringing: Microsoft Software that includes the Authenticode feature, .NET Framework SDK, Visual Studio, Microsoft technology that supports a digital signature function (such as ActiveX), Windows Installer technology. Infringement is based on use Microsoft ActiveX control, Cabinet file, Microsoft Windows Installer, Authenticode and Software Restriction Policy technologies. For example, a software publisher distributing a signed application that has licensed ActiveX controls embedded within it would practice this method. The item is unsigned software such as an ActiveX control or any software packaged in a cabinet file or Microsoft Installer (.msi) file. Within the development environment, multiple software developers (working on a second apparatus) will send their unsigned software to a secure location (first apparatus) containing the entity's private signing key. An example entity would be a software publisher. Source: Deploying ActiveX Controls on the Web with the Internet Component Download The holder of the digital certificate Keeping your digital certificate safe is very important. Some firms (including Microsoft) do not keep their signature file on site. The signature is kept with the Certificate Authority and files are sent there for signing.
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	<p>technology.</p> <p>The .cab tool set assists software developers in applying digital signatures to .cab files by allowing a developer to allocate space in the .cab file for the signature.</p>
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>incorporating said item into a secure digital container;</p> <p>Signing software either directly or within a package (cabinet or .msi file) secures it in a digital container.</p> <p>Alternately, the signed ActiveX control could be placed into a signed cabinet file.</p>
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>associating a first rule with said secure digital container, said first rule at least in part governing at least one aspect of access to or use of said item;</p> <p>The first rule would be the licensing support code within the ActiveX control and/or conditional syntax statements when the software is within a signed .msi file. When the software is within a signed cabinet file, the first rule can be a rule contained in the software, as is the case when an ActiveX control is packaged in a signed cabinet file.</p>
	<p>First rule, in the case of ActiveX:</p> <p>When an application with a licensed ActiveX control is started, an instance of the control usually needs to be created. The application accomplishes this by making a call to CreateInstanceLic and passing the license key embedded in the application as a parameter in the call. The ActiveX control performs a string comparison between the embedded license key and its own copy of the license key. If the keys match, an instance of the control is created and the application can execute normally.</p>
	<p>Source: Using ActiveX Controls to Automate Your Web Pages</p> <p>Run-time licensing</p> <p>Most ActiveX Controls should support design-time licensing and run-time licensing. (The exception is the control that is distributed free of charge.) Design-time licensing ensures that a developer is building his or her application or Web page with a legally purchased control; run-time licensing ensures that a user is running an application or displaying a Web page that contains a legally purchased control.</p> <p>Design-time licensing is verified by control containers such as Visual Basic, Microsoft Access, or Microsoft Visual InterDev®. Before these containers allow a developer to place a control on a form or Web page,</p>

	<p>they first verify that the control is licensed by the developer or content creator. These containers verify that a control is licensed by calling certain functions in the control: If the license is verified, the developer can add it.</p> <p>Run-time licensing is also an issue for these containers (which are sometimes bundled as part of the final application); the containers again call functions in the control to validate the license that was embedded at design time.</p>
transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus;	<p>The third apparatus is a user computer or an application server. The protected processing environment (PPE) is Windows operating system, Internet Explorer (IE) and pertinent operating IE services such as Windows File Protection and security, signature and cryptographic functions related to code signing and related policies. The PPE checks for signatures on software or the software packages and detects situations when the signature does not validate as an indication that tampering may have occurred with the item.</p>
said third apparatus receiving said secure digital container and said first rule;	<p>Having the third apparatus receiving said secure digital container and said first rule is typical of networked computing environments.</p>
said third apparatus checking said authentication information; and	<p>Examine the signature information includes verifying that signature was created using the private key that corresponds to the public key of the publisher.</p>
said third apparatus performing at least one action on said item, said at least one action being governed, at least in part, by said first rule and by a second rule resident at said third apparatus prior to said receipt of said secure digital container and said first rule, said action governance occurring at least in part in said protected processing environment.	<p>The action would be installation and/or use of the distributed software. The second rule can be software restriction policies resident on the machine, which can be invoked at installation and/or runtime.</p> <p><u>.NET Framework Security – pg 259</u></p> <p>and</p>
	<p><u>White Paper – Using Software Restriction Policies in Windows XP and Windows .NET Server to Protect Against Unauthorized Software</u></p> <p>Software Restriction Policies is a policy-driven technology that allows administrators to set code-identity-based rules that determine whether an application is allowed to execute. (.NET Framework Security – pg 259)</p>

	<p>For example, administrators can set rules for all Windows Installer packages coming from the Internet or Intranet zone.</p> <p>As part of the DLL load mechanisms, Software Restriction Policies is invoked and starts to check its most specific rules. Software Restriction Policies get invoked prior to an .exe being able to run.</p> <p>The four types of rules are – hash, certificate, path, and zone.</p> <p>Note: The hash and certificate rules relate directing to the signature information whereas, the path and zone rules do not.</p>
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<p>10</p> <p>11</p> <p>127. A method as in claim 126, in which said authentication information at least in part identifies said first apparatus and/or a user of said first apparatus.</p>	<p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>The software publisher, user of first device, is identified in the authentication information.</p>
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 2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 3 INTERTRUST INFRINGEMENT CHART
 4 FOR U.S. PATENT NO. 6,185,683

126.	Product infringing: Visual Studio .NET, .NET Framework SDK, Authenticode, Products that contain the .NET CLR, Compact CLR or CLI.
A method of providing trusted intermediary services including the following steps: at a first apparatus, receiving an item from a second apparatus;	First apparatus is a software build or deployment services computer that has access to signing key. The item may be a program, graphic, media object or other resource, from a developer computer, or archive (second apparatus).
associating authentication information with said item;	Associating a cryptographic hash with the file that will contain this item for the purpose of ensuring the authenticity of the item, along with names and attributes that are desired to be associated with the item for identification purposes.
incorporating said item into a secure digital container;	Producing signed, strongly named assembly that contains this assembly and associated attributes.
associating a first rule with said secure digital container, said first rule at least in part governing at least one aspect of access to or use of said item;	Including any security demands (such as members of the Microsoft .NET Framework SDK Public Class CodeAccessSecurityAttribute) as part of the assembly.
transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus;	The third apparatus is a user computer or an application server. The third apparatus's protected processing environment is Windows NT and the .NET CLR, CLI and/or compact CLR. Information is protected from tampering because user is not administrator, user runs code on server, a share on another computer, or over a network. Further this information is protected by a number of protection mechanisms that are included with the Windows NT and CLR, CLI and/or compact CLR distributions.
said third apparatus receiving said secure digital container and said first rule;	Having the third apparatus receiving said secure digital container and said first rule is typical of networked computing environments.
said third apparatus checking said authentication information; and	The .NET Framework, when the assembly is installed into the global assembly cache (GAC), verifies the strong name of assemblies. This process includes verifying that signature was created using the private key that corresponds to the

1 2 3 4 5 6 7 8	said third apparatus performing at least one action on said item, said at least one action being governed, at least in part, by said first rule and by a second rule resident at said third apparatus prior to said receipt of said secure digital container and said first rule, said action governance occurring at least in part in said protected processing environment.	public key of the publisher. The action is executing code that is the item or using code that renders the item. Action is governed by security demands on code that calls the item or on code that calls code included in the .NET assembly that manages said item. The second rule is the machine, enterprise, user, and application configuration file resident rules. Typically these configuration files will be populated before the arrival of most new assemblies in a virtual distribution environment. This action governance occurs in the protected processing environment of the CLR, CLI and/or compact CLR.
9 10 11 12	127. A method as in claim 126, in which said authentication information at least in part identifies said first apparatus and/or a user of said first apparatus.	The authentication information will identify the .NET Assembly Class company name and trademark attributes that identify the apparatus or user of the first apparatus as being a member of an entity or a branded source (brand name).
13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,185,683

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	126. Product infringing: Visual Studio .NET, .NET Framework SDK, Authenticode, Products that contain the .NET CLR, Compact CLR or CLI.
A method of providing trusted intermediary services including the following steps: at a first apparatus, receiving an item from a second apparatus;	The item is an unsigned .NET assembly, which can include, but not be limited to, a Web control, multi-file assembly or component. Within the development environment, multiple assembly builders (working on a second apparatus) will send their unsigned assembly to a secure location (first apparatus) containing the entity's private signing key. An example entity would be a software publisher.
	<p><u>.NET Security Framework – pg 130-1</u></p> <p>Describes this exact practice and further explains the “Delay Signing Assemblies” feature of .NET that accommodates the fact that “many publishers will keep the private key in a secure location, possibly embedded in specially designed cryptographic hardware.”</p> <p>“Delay signing is a technique used by developers whereby the public key is added to the assembly name as before, granting the assembly its unique identity, but no signature is computed. Thus, no private key access is necessary.”</p>
associating authentication information with said item;	Strong naming the assembly binds the entity's/publisher's name into the assembly. The public portion of the key used to strongly name the assembly is placed in the assembly manifest. Other assemblies or applications can contain references to the strong names of strongly named assemblies such as in the case of applications that contain references to a set of compliant .NET core libraries. Strong naming compliant .NET core libraries with the European Computers Manufacturers Association's (ECMA) key is a way to allow any publisher to develop compliant .NET core libraries that can be authenticated by other applications.

	<p><u>.NET Security Framework – pg 124</u> “Strong naming is a process whereby an assembly name can be further qualified by the identity of the publisher.”</p> <p><u>.NET Security Framework – pg 133</u> The publisher must advertise its public key or keys in an out-of-band fashion (such as documentation shipped with the product or on the company Web site)</p> <p><u>.NET Security Framework – pg 130</u> The goal of the ECMA key is to allow a slightly more generalized strong name binding than usual, namely allowing binding to the publisher of the runtime in use, rather than to a fixed publisher.</p>
incorporating said item into a secure digital container;	<p>Signed the assembly places it in a secure container.</p> <p><u>.NET Framework Security – pg 527</u> Strong named assemblies cannot be modified in any manner without destroying the strong name signature.</p> <p><u>Applied Microsoft .NET Framework Programming – pg 89</u> <i>Strongly Named Assemblies Are Tamper-Resistant</i> When the assembly is installed into the GAC, the system hashes the contents of the file containing the manifest and compares the hash value with the RSA digital signature value embedded within the PE file (after unsigned it with the public key). If the values are identical, the file's contents haven't been tampered with and you know that you have the public key that corresponds to the publisher's private key. In addition, the system hashes the contents of the assembly's other files and compares the hash values with the hash values stored in the manifest file's FileDef table. If any of the hash values don't match, at least one of the assembly's files has been tampered with and the assembly will fail to install into the GAC.</p>
associating a first rule with said secure digital container, said first rule at least in part governing at least one aspect of access to or use of said item;	<p>A .NET assembly includes imperative and declarative statements/rules that will govern its access or use. For example, role-based security or strong name demands in the assembly can be the first rule.</p> <p>MSDN on Role-Based Security</p> <p>Applications that implement role-based security grant rights based on the role</p>

	<p>associated with a principal object. The principal object represents the security context under which code is running. The PrincipalPermission object represents the identity and role that a particular principal class must have to run. To implement the PrincipalPermission class imperatively, create a new instance of the class and initialize it with the name and role that you want users to have to access your code.</p> <p>MSDN on StrongNameIdentityPermission</p> <p>StrongNameIdentityPermission class defines the identity permission for strong names. StrongNameIdentityPermission uses this class to confirm that calling code is in a particular strong-named assembly.</p>
transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus;	<p>The third apparatus is a user computer or an application server. The software publisher transmitting the .NET assembly to an end-user with a CLR. The third apparatus's protected processing environment is Windows NT and the .NET CLR, CLI and/or compact CLR. Information is protected from tampering because user is not administrator, user runs code on server, a share on another computer, or over a network. Further this information is protected by a number of protection mechanisms that are included with the Windows NT and CLR, CLI and/or compact CLR distributions.</p>
said third apparatus receiving said secure digital container and said first rule;	<p>The end-user receiving the signed assembly.</p>
said third apparatus checking said authentication information; and	<p>The .NET Framework, when the assembly is installed into the global assembly cache (GAC), verifies the strong name of assemblies. This process includes verifying that signature was created using the private key that corresponds to the public key of the publisher.</p> <p><u>Applied Microsoft .NET Framework Programming – pg 89</u></p> <p><i>Strongly Named Assemblies Are Tamper-Resistant</i></p> <p>As above.</p> <p><u>.NET Framework Security – pg 128</u></p> <p>The verification of any strong name assemblies is performed automatically when needed by the .NET Framework.</p> <p><u>Any assembly claiming a strong name but</u></p>

	failing verification will fail to install into the global assembly or download cache or will fail to load at runtime.
3 4 5 6 7 8 9	said third apparatus performing at least one action on said item, said at least one action being governed, at least in part, by said first rule and by a second rule resident at said third apparatus prior to said receipt of said secure digital container and said first rule, said action governance occurring at least in part in said protected processing environment.
10 11	127. A method as in claim 126, in which said authentication information at least in part identifies said first apparatus and/or a user of said first apparatus.

12 LaMacchia, Brian, etc, .NET Framework Security, Addison-Wesley, 2002
 13 Richter, Jeffrey, Applied Microsoft .NET Framework Programming, Microsoft Press, 2002

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INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,253,193

CLAIM LANGUAGE		CLAIM OF INFRINGEMENT
1		Infringing products include Windows Media Player and Windows Media Rights Manager SDK
A method comprising:		
(a) receiving a digital file including music;		Reference is made to the Windows Media Rights Manager SDK Programming Reference ("WMRM SDK"), attached hereto as Exhibit A. Media Player infringement analysis is set forth herein using the example of a music file downloaded and transferred to a portable audio player.
(b) storing said digital file in a first secure memory of a first device;		Consumer receives a Windows Media file (WMRM SDK, Step 3)
(c) storing information associated with said digital file in a secure database stored on said first device, said information including at least one budget control and at least one copy control, said at least one budget control including a budget specifying the number of copies which can be made of said digital file; and said at least one copy control controlling the copies made of said digital file;		License is stored in the License Store (WMRM SDK, Step 5); license includes Rights which may include AllowTransfertoNonSDMI, AllowTransfertoSDMI, (or Allow Transfer to WM-D-DRM-Compliant devices or other types of devices), and TransferCount- the number of times a piece of content may be transferred to the device (a transfer budget).
(d) determining whether said digital file may be copied and stored on a second device based on at least said copy control;		Windows Media Rights Manager enforces the license restrictions
(e) if said copy control allows at least a portion of said digital file to be copied and stored on a second device,		Windows Media Rights Manager determines whether the AllowTransferToNonSDMI or AllowTransferToSDMI rights are present.(Or, Allow Transfer to WM-D-DRM-Compliant devices or other types of devices.)
(1)copying at least a portion of said digital file;		Transfer to the SDMI or non-SDMI portable device (Allow Transfer to WM-D-DRM-Compliant devices or other types of devices), if allowed by Windows Media Rights Manager
(2)transferring at least a portion of said digital file to a second device including a memory and an audio and/or video output;		Portable device necessarily includes at least a memory and audio output
(3)storing said digital file in said memory of said second device; and		Music file is transferred to the portable device
(4)including playing said music through said audio output.		Portable device plays the music
2. A method as in claim 1, further comprising:		
(a) at a time substantially contemporaneous with said transferring step, recording in said		Counter reflecting TransferCount is decremented by Windows Media Rights

1	first device information indicating that said transfer has occurred.	Manager
2	3. A method as in claim 2, in which: (a) said information indicating that said transfer has occurred includes an encumbrance on said budget.	Counter decrement reduces the allowable number of budgeted transfers
4	4. A method as in claim 3, in which: (a) said encumbrance operates to reduce the number of copies of said digital file authorized by said budget.	Counter decrement reduces the allowable number of budgeted transfers
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 2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 3 **INTERTRUST INFRINGEMENT CHART**
 4 **FOR U.S. PATENT NO. 6,253,193**

	Infringing products include Windows Media Player and Windows Media Rights Manager SDK
11. A method comprising:	
(a) receiving a digital file;	Consumer receives a Windows Media file (WMRM SDK, Step 3)
(b) storing said digital file in a first secure memory of a first device;	Windows Media file is stored in consumer's computer and all use of it is securely managed by the Secure Content Manager in Windows Media Player.
(c) storing information associated with said digital file in a secure database stored on said first device, said information including a first control;	License information is stored in the License Store (WMRM SDK, Step 10), license information includes Rights. License Rights may include AllowTransferToNonSDMI, AllowTransferToSDMI (Allow Transfer to WM-D-DRM-Compliant devices or other types of devices), TransferCount
(d) determining whether said digital file may be copied and stored on a second device based on said first control.	WMRM determines whether transfer rights are included in license (WMRM SDK, Step 5)
(1) said determining step including identifying said second device and determining whether said first control allows transfer of said copied file to said second device, said determination based at least in part on the features present at the device to which said copied file is to be transferred;	Portable Device Service Provider Module identifies the portable device as either SDMI-compliant or non-SDMI-compliant (or WM-D-DRM Compliant or other types of supported devices) and provides this information to Windows Media Device Manager, which allows the transfer based on whether the device identification matches the License Right.
(e) if said first control allows at least a portion of said digital file to be copied and stored on a second device,	If Windows Media Rights Manager determines whether the AllowTransferToNonSDMI or AllowTransferToSDMI rights are present (or Allow Transfer to WM-D-DRM-Compliant devices or other types of devices), the following steps are performed:
(1) copying at least a portion of said digital file;	Transfer to the SDMI or non-SDMI (Allow Transfer to WM-D-DRM-Compliant or other) portable device, if allowed by Windows Media Rights Manager
(2) transferring at least a portion of said digital file to a second device including a memory and an audio and/or video output;	Portable device necessarily includes at least a memory and audio output
(3) storing said digital file in said memory of said second device; and	Music file is stored in the portable device
(4) rendering said digital file through said output.	Portable device plays the music

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3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,253,193

	Product infringing: Windows Media Player, Windows Media Player, Windows Media Rights Manager SDK
15. A method comprising:	
(a) receiving a digital file;	Consumer receives a Windows Media file ((WMRM SDK, Step 3))
(b) an authentication step comprising:	
(1) accessing at least one identifier associated with a first device or with a user of said first device; and	License includes identity of user's Windows Media Player. WM Players capable of playing protected content must be individualized. They contain a unique (Individualized) DRM client component to which protected WMA content licenses are bound. Content licenses are bound to this DRM individualization module as the result of a challenge sent from the Client to the WMLM service. The challenge contains information about Individualized DRM Client (in the form of an encrypted Client ID) and capabilities of the machine (e.g. support for Secure Audio Path (SAP), version of the WMRM SDK supported in the player).
(2) determining whether said identifier is associated with a device and/or user authorized to store said digital file;	Music file cannot be used unless identifier indicated in License matches user's Windows Media Player identifier (that is, the Individualized DRM Client to which the license is bound must be the same one supported by the device).
(c) storing said digital file in a first secure memory of said first device, but only if said device and/or user is so authorized, but not proceeding with said storing if said device and/or user is not authorized;	Music file will not be processed through Windows Media Player, including protected rendering buffers, unless the identifiers match. Protected WMA file can be stored on client even if unauthorized but it cannot be decrypted and enter into the secure boundary (first secure memory) of the player unless appropriately licensed.
(d) storing information associated with said digital file in a secure database stored on said first device, said information including at least one control;	License includes Rights and is stored in the License Store, Rights may include AllowTransferToNonSDMI, AllowTransferToSDMI, (or Allow Transfer To WM-D-DRM-CompliantDevice or other device) TransferCount
(e) determining whether said digital file may be copied and stored on a second device based on said at least one control;	Windows Media Rights Manager enforces the license restrictions
(f) if said at least one control allows at least a portion of said digital file to be copied and stored on a second device,	If appropriate rights are present, the following steps are performed:
(1) copying at least a portion of said	Transfer to the SDMI or non-SDMI (or WM-

1	digital file;	D-DRM Compliant or other) portable device, if allowed by Windows Media Rights Manager
2	(2) transferring at least a portion of said digital file to a second device including a memory and an audio and/or video output;	Portable device necessarily includes at least a memory and audio output
3	(3) storing said digital file in said memory of said second device; and	Music file is stored in the portable device
4	(4) rendering said digital file through said output.	Portable device plays the music
5	16. A method as in claim 15, in which:	
6	7 said digital file is received in an encrypted form; 8 and further comprising: 9 decrypting said digital file after said authentication step and before said step of 10 storing said digital file in said memory of said first device.	Protected Windows Media File is encrypted. WMP will not decrypt file until license is processed. Licenses are bound to Individualization DLLs, which are bound to Hardware ID. Ind. DLL and Hardware ID must be verified as the Ids to which the license is bound – this is the authentication process. (Recall that this module was created based in part on receipt of the Client Hardware ID or fingerprint and the license was create based in part on receipt of a challenge from the client indicating the security properties (SAP-ready, SDK support, etc.) of the client).
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1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,253,193

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
19.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A method comprising: receiving a digital file at a first device;	Receiving a digital file such as a Word Document, email, Excel spreadsheet, PowerPoint presentation, or other content at a recipient's device. Such content may be received via email, received on removable media, such as floppy disk, downloaded and viewable by Internet Explorer, e.g., a web page possibly containing graphics and/or audio data, etc.
establishing communication between said first device and a clearinghouse located at a location remote from said first device;	If the digital file is subject to rights management, and the recipient tries to open the digital file in an IRM-enabled application, the IRM-enabled application contacts a remote RMS, i.e., clearinghouse for a use license.
said first device obtaining authorization information including a key from said clearinghouse;	If the recipient is authorized to access or use the digital file, the RMS creates a license for the digital file. The RMS then seals a key inside the license so that only the recipient can access or use the digital file. Finally, the RMS sends the license back to the recipient.
said first device using said authorization information to gain access to or make at least one use of said first digital file, including using said key to decrypt at least a portion of said first digital file; and	The recipient's device then uses the key in the license to gain access or decrypt a portion of the digital file.
receiving a first control from said clearinghouse at said first device;	The license received from the RMS at the recipient's device contains at least one control, such as restricting the ability to print, forward, or edit.
storing said first digital file in a memory of said first device;	The digital file is stored in the memory of the said recipient's device, such as in RAM, on a hard drive, etc.
using said first control to determine whether said first digital file may be copied and stored on a second device;	The at least one control in the license limits copying the digital file. Such controls are set when the digital file was authored. For example, when the digital file is authored, the IRM-enabled application presented the author with a list of policy templates with different rights levels. The author selected an appropriate rights level which may for instance, allow other users in the system to open and read the document, but not

	<p>to modify it, copy text from it, or forward it. These rights or controls are then associated with the digital file.</p> <p>When an attempt is made to access the digital file, the RMS determines the recipient's rights based on the recipient's identity and the policies or controls associated with the digital file.</p>
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>if said first control allows at least a portion of said first digital file to be copied and stored on a second device,</p> <p>copying at least a portion of said first digital file;</p> <p>transferring at least a portion of said first digital file to a second device including a memory and an audio and/or video output;</p> <p>storing said first digital file portion in said memory of said second device; and</p> <p>rendering said first digital file portion through said output.</p>
	If the control in the license allows copying the digital file to a second device, then at least a portion of the digital file is copied, such as by transferring or forwarding the digital file in an email message;
	A portion of the digital file is then transferred to a second device, such as a personal computer or portable device. The second device includes a memory and an audio and/or video output. The memory may be a hard-drive, RAM, CD, DVD, or other storage. The audio and/or video output may be speakers and/or a video monitor.
	The digital file is stored in the second device's memory.
	The digital file is rendered through the output, such as played through the speakers and/or displayed on the video monitor. For example, a Word document is displayed on the screen of the video monitor.

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	Infringing products include Windows Media Player, Windows Media Rights Manager SDK
19. A method comprising:	
(a) receiving a digital file at a first device;	WMRM SDK, Step 3.
(b) establishing communication between said first device and a clearinghouse located at a location remote from said first device;	WMRM SDK, Step 6.
(c) said first device obtaining authorization information including a key from said clearinghouse;	WMRM SDK, Step 9. [License contains the key]
(d) said first device using said authorization information to gain access to or make at least one use of said first digital file, including using said key to decrypt at least a portion of said first digital file; and	WMRM SDK, Step 11.
(e) receiving a first control from said clearinghouse at said first device;	WMRM SDK, Steps 8-9.
(f) storing said first digital file in a memory of said first device;	WMRM SDK, Step 3.
(g) using said first control to determine whether said first digital file may be copied and stored on a second device;	At least the following WMRMRights Object properties meet this limitation: AllowTransferToNonSDMI, AllowTransferToSDMI (or AllowTransfer To WM-D-DRM-Compliant Device or other) and TransferCount
(h) if said first control allows at least a portion of said first digital file to be copied and stored on a second device,	This and all subsequent claim steps occur when the condition specified in the WMRMRights Object property is met
(i) copying at least a portion of said first digital file;	Transfer to the SDMI or non-SDMI (or WM-D-DRM Compliant) portable device, if allowed by Windows Media Rights Manager
(j) transferring at least a portion of said first digital file to a second device including a memory and an audio and/or video output;	Portable device necessarily includes at least a memory and audio output
(k) storing said first digital file portion in said memory of said second device; and	Music file is stored in the portable device
(l) rendering said first digital file portion through said output.	Portable device plays the music

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	Infringing products include Windows Media Player, Windows Media Player, Windows Media Rights Manager SDK
51. A method comprising:	
(a) receiving a digital file at a first device;	WMRM SDK, Step 3.
(b) establishing communication between said first device and a clearinghouse located at a location remote from said first device;	WMRM SDK, Step 6.
(c) said first device obtaining authorization information from said clearinghouse; and	WMRM SDK, Step 9.
(d) said first device using said authorization information to gain access to or make at least one use of said first digital file;	WMRM SDK, Step 11.
(e) storing said first digital file in a memory of said first device;	WMA file stored on client
(f) using at least a first control to determine whether said first digital file may be copied and stored on a second device, said determination based at least in part on (1) identification information regarding said second device, and (2) the functional attributes of said second device;	If device is based on WM D-DRM, it has a certificate that is used to identify the device as compliant as well as the device's security level. The security level indicates support on the device for such attributes as an internal clock.
(g) if, based at least in part on said identification information, said first control allows at least a portion of said first digital file to be copied and stored on a second device,	If License specifies that transfer of protected WMA file to WM-D-DRM-Compliant device is allowed, transfer may occur.
(h) copying at least a portion of said first digital file;	If transfer is a licensed right as indicated in the license, the song is copied to the device via Windows Media Device Manager.
(i) transferring at least a portion of said first digital file to a second device including a memory and an audio and/or video output;	Windows Media Device Manager transfers the content to the device:
(j) storing said first digital file portion in said memory of said second device; and	WMA file is stored on device
(k) rendering said first digital file portion through said output.	WMA file is rendered.

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CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
4 33.	Infringing products include all Microsoft 5 tools that support the Microsoft ActiveX 6 licensing model, Visual Studio .NET, the 7 Microsoft Installer SDK, and Operating 8 System products that include the Microsoft 9 Installer technology.
10 A data processing arrangement comprising 11 at least one storing arrangement that at 12 least temporarily stores a first secure 13 container comprising first protected data 14 and a first set of rules governing use of said 15 first protected data,	The first protected data is an ActiveX 16 control. The first alternative for the first secure 17 container is the signed .msi in which the 18 ActiveX developer packaged the ActiveX 19 control. The first set of rules is the 20 conditional syntax statements of the signed 21 .msi file. The second alternative for the first secure 22 container is the signed and licensed 23 ActiveX control. The first set of rules is 24 the license support code in the ActiveX 25 control. A third alternative for the first container is 26 a signed cabinet file containing a (signed or 27 unsigned) ActiveX control with license 28 support code. The first set of rules is the license support code in the ActiveX control.
19 and at least temporarily stores a second 20 secure container comprising second 21 protected data different from said first 22 protected data and a second set of rules 23 governing use of said second protected 24 data; and	The second protected data is the application 25 developer's application that includes/uses 26 the ActiveX control. The application 27 developer's signed .msi file (second secure 28 container) contains the application (second protected data). The second set of rules is the signed .msi file's conditional syntax statements that will be governed the offer/installation of the application.
24 a data transfer arrangement, coupled to at 25 least one storing arrangement, for 26 transferring at least a portion of said first 27 protected data and a third set of rules 28 governing use of said portion of said first protected data to said second secure container, 27 further comprising	Placing the licensed ActiveX control (first 28 protected information) in a signed cabinet file (third secure container) that itself is included in the application's signed .msi file (second secure container). The third set of rules is the license support code in the ActiveX control.
28 means for creating and storing, in said at least one storing arrangement, a third secure container;	The ability of the application developer to package files in signed cabinet files.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	said data transfer arrangement further comprising means for transferring said portion of said first protected data and said third set of rules to said third secure container, and means for incorporating said third secure container within said second secure container.	The third secure container is a cabinet file signed by the application developer and including at least the licensed ActiveX control (first protected information. The licensing support code in the ActiveX control when its developer added licensing support to the ActiveX control is the third set of rules.
34. A data processing arrangement as in claim 33 further comprising means for applying said third set of rules to govern at least one aspect of use of said portion of said first protected data.	Before an ActiveX control will create a copy of itself, the calling application has to pass a license key to the ActiveX control. The license support code in the ActiveX control (third rule set) evaluates the authenticity of the calling application's request.	
35. A data processing arrangement as in claim 34 further comprising means for applying said second set of rules to govern at least one aspect of use of said portion of said first protected data.	Windows Installer operating system service enforces the conditional syntax statements of the application's signed .msi file. These statements govern the offer/installation of the ActiveX control.	

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<p>4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28</p> <p>41</p>	<p>Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology.</p> <p>A method comprising performing the following steps within a virtual distribution environment comprising one or more electronic appliances and a first secure container, said first secure container comprising (a) a first control set, and (b) a second secure container comprising a second control set and first protected information:</p> <p>using at least one control from said first control set or said second control set to govern at least one aspect of use of said first protected information while said first protected information is contained within said first secure container;</p> <p>creating a third secure container comprising a third control set for governing at least one aspect of use of protected information contained within said third secure container;</p> <p>incorporating a first portion of said first protected information in said third secure container, said first portion made up of some or all of said first protected information; and</p> <p>using at least one control to govern at least</p>	<p>The signed .msi file created by the ActiveX control developer is the first secure container. The conditional syntax statement(s) of the ActiveX control developer's signed .msi file is/are the first control set.</p> <p>The first protected information is the ActiveX control.</p> <p>The first alternative for the second secure container is the signed and licensed ActiveX control. The second control set is the license support code in the ActiveX control.</p> <p>The second alternative for the second secure container is a signed cabinet file containing the (signed or unsigned) ActiveX control. The second control set is the license support code in the ActiveX control.</p> <p>The ActiveX control developer's conditional syntax statements (first control set) in the ActiveX developer's signed .msi file govern the offer/installation of the ActiveX control while it is in its signed .msi file.</p> <p>Alternately, the license support code (second control set) in the ActiveX control governs use of the licensed ActiveX control.</p> <p>The third secure container is a signed .msi file. The application developer packages its application in a signed .msi file (third secure container) and includes conditional syntax statements (third control set) in the signed .msi</p> <p>Placing the ActiveX control into the application developer's signed .msi file (third secure container).</p> <p>The application developer's conditional</p>
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1	one aspect of use of said first portion of 2 said first protected information while said 3 first portion is contained within said third secure container.	syntax statement(s) in its signed .msi file govern the offer/installation ActiveX control while it is in the signed .msi file (third secure container).
4	42. A method as in claim 41, in which said first secure container further includes a fourth secure container comprising a fourth control set and second protected information and further comprising the following step:	The second protected information is a second ActiveX control. The first alternative for the fourth secure container is the signed and licensed second ActiveX control. The fourth control set is the license support code in the ActiveX control. The second alternative for the fourth secure container is a signed cabinet file containing the (signed or unsigned) second ActiveX control. The fourth control set is the license support code in the ActiveX control.
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11	using at least one control from said first control set or said fourth control set to govern at least one aspect of use of said second protected information while said second protected information is contained within said first secure container.	The ActiveX control developer's conditional syntax statements (first control set) in the ActiveX developer's signed .msi file govern the offer/installation of the second ActiveX control while it is in its signed .msi file. Alternately, the license support code (second control set) in the ActiveX control governs use of the licensed ActiveX control.
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18	47. A method as in claim 41, in which said step of creating a third secure container includes:	
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20	creating said third control set by incorporating at least one control not found in said first control set or said second control set.	The application developer's conditional syntax statements are not found in either the first control set or the second control set.
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22	52. A method as in claim 41 in which said step of creating a third secure container occurs at a first site, and further comprising:	
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24	copying or transferring said third secure container from said first site to a second site located remotely from said first site.	The application developer at first site distributes its application to other sites.
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26	53. A method as in claim 52 in which said first site is associated with a content distributor.	The application developer at the first site is the content distributor.
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28	54. A method as in claim 53 in which said second site is associated with a user of	The application developer distributes the application to end-users.

1 content.

2 55. A method as in claim 54 further
3 comprising the following step:
4 said user directly or indirectly initiating
communication with said first site.

For Internet downloads, the user initiates
the communication with the first site.

5 64. A method as in claim 54 in which said
6 third control set includes one or more
7 controls at least in part governing the use
by said user of at least a portion of said
first portion of said first protected
information.

The application developer's conditional
syntax statements (third control set) govern
the installation of the ActiveX control (first
protected information).

8 76. A method as in claim 41 in which said
9 creation of said third secure container
10 further comprises using a template which
specifies one or more of the controls
11 contained in said third control set.

The third secure container is the application
developer's signed .msi file and the third
control set is the conditional syntax
statements in that file.

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Microsoft supplies several template .msi
databases for use in authoring installation
packages. The UISample.msi is the
template recommended in the "An
Installation Example" on MSDN. This
template msi files contains several default
conditional syntax statements. At least two
of these conditional syntax statements
directly govern the installation by blocking
progress until the EULA is accepted.

78. A method as in claim 52 in which said
creation of said third secure container
further comprises using a template which
specifies one or more of the controls
contained in said third control set.

The third secure container is the application
developer's signed .msi file and the third
control set is the conditional syntax
statements in that file.

Microsoft supplies several template .msi
databases for use in authoring installation
packages. The UISample.msi is the
template recommended in the "An
Installation Example" on MSDN. This
template msi files contains several default
conditional syntax statements. At least two
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directly govern the installation by blocking
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81.	Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology.
A data processing arrangement comprising: a first secure container comprising first protected information and a first rule set governing use of said first protected information;	The first alternative for the first secure container is the ActiveX control developer's signed .msi file containing a licensed ActiveX control (the first protected information). The conditional syntax statements of the signed .msi file are the first rule set. The second alternative for the first secure container is the signed cabinet file containing the ActiveX control. The license support code in the ActiveX control is the first rule set. The third alternative for the first secure container is the licensed and signed ActiveX control governed by license support code in the ActiveX control.
a second secure container comprising a second rule set; means for creating and storing a third secure container; and means for copying or transferring at least a portion of said first protected information and a third rule set governing use of said portion of said first protected information to said second secure container, said means for copying or transferring comprising: means for incorporating said third secure container within said second secure container.	The second secure container is the signed .msi file which the application developer package its application. The second rule set is the conditional syntax statements of the application developer's signed .msi file. The third container is a signed cabinet file containing at least the ActiveX control. Putting the licensed ActiveX control (first protected information) in a signed cabinet file (third secure container). The licensing support code in the ActiveX control is third rule set. Packaging the signed cabinet file in the signed .msi file.
82. A data processing arrangement as in claim 81 further comprising:	
means for applying at least one rule from said third rule set to at least in part govern at least one factor related to use of said portion of said first protected information.	The third rule set ensures the user is licensed.
83. A data processing arrangement as in claim 82 further comprising:	

1	means for applying at least one rule from 2 said second rule set to at least in part 3 govern at least one factor related to use of said portion of said first protected information.	The second rule set governs the offer/installation of first protected information.
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7 85.	Infringing products include all Microsoft 8 tools that support the Microsoft ActiveX 9 licensing model, Visual Studio .NET, the 10 Microsoft Installer SDK, and Operating 11 System products that include the Microsoft 12 Installer technology.
13 A method comprising the following steps: 14 creating a first secure container comprising 15 a first rule set and first protected 16 information;	The first protected information is the 17 ActiveX control. The first alternative for the first secure 18 container is the signed and licensed 19 ActiveX control. The first rule set is the 20 license support code in the ActiveX 21 control. The second alternative for the first secure 22 container is an (signed or unsigned) 23 ActiveX control with license support 24 contained within a signed cabinet file. The 25 first rule set is the ActiveX license support 26 code.
27 storing said first secure container in a first 28 memory;	The first secure container is stored at the 29 ActiveX control developer's location.
30 creating a second secure container 31 comprising a second rule set;	The second secure container is the 32 application developer's signed .msi file. 33 The conditional syntax statements of the 34 signed .msi file are the second rule set.
35 storing said second secure container in a 36 second memory;	The second secure container is stored at the 37 application developer's location.
38 copying or transferring at least a first 39 portion of said first protected information 40 to said second secure container, said 41 copying or transferring step comprising: 42 creating a third secure container 43 comprising a third rule set;	The ActiveX control developer packages 44 the control in a signed .msi file for 45 distribution to the application developer's 46 site.
47 copying said first portion of said 48 first protected information;	The third secure container is the ActiveX 49 control developer's signed .msi file 50 containing a licensed ActiveX control. The 51 conditional syntax statements of the signed 52 .msi file are the third rule set.
53 transferring said copied first portion 54 of said first protected information to 55 said third secure container; and	In preparation for using a msi authoring 56 tool, such as Microsoft's Orca, copying the 57 ActiveX control to a package staging area.
58 copying or transferring said copied 59 first portion of said first protected 60 information from said third secure 61 container to said second secure 62 container.	Using msi authoring tool to import the 63 control into the signed .msi file.
	The application developer installs the 64 ActiveX control, which involves removing 65 it from the ActiveX developer's signed 66 .msi file and installing it into its 67 environment. Subsequently, the

1		application developer places the ActiveX control into its signed .msi file when it is packaging its application.
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3	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire ActiveX control is copied.
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6	89. A method as in claim 85 in which said first memory is located at a first site,	The first memory is located at the ActiveX control developer's site.
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8	said second memory is located at a second site remote from said first site, and	The second memory is located at the application developer's site.
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10	said step of copying or transferring said first portion of said first protected information to said second secure container further comprises copying or transferring said third secure container from said first site to said second site.	The ActiveX control developer's signed .msi file is transferred from its site to the site of the application developer.
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5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	4 85. (alternate infringing scenario)	Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology.
A method comprising the following steps: creating a first secure container comprising a first rule set and first protected information;	The first protected information is the ActiveX control. The first alternative for the first secure container is the signed and licensed ActiveX control. The first rule set is the license support code in the ActiveX control.	
	The second alternative for the first secure container is a (signed or unsigned) ActiveX control with license support contained within a signed cabinet file. The first rule set would remain the ActiveX license support code.	
	The third alternative for the first secure container is a signed msi file in which the ActiveX control developer packaged its ActiveX control. The first rule set is the conditional syntax statement(s) of the signed msi file.	
storing said first secure container in a first memory;	The first secure container is stored at the ActiveX control developer's location.	
creating a second secure container comprising a second rule set;	The second secure container is the application developer's signed .msi file. The conditional syntax statements of the signed .msi file are the second rule set.	
storing said second secure container in a second memory;	The second secure container is stored at the application developer's location.	
copying or transferring at least a first portion of said first protected information to said second secure container, said copying or transferring step comprising:	The ActiveX control is placed in a cabinet file signed by the application developer and the signed cabinet file is placed in a .msi file signed by the application developer.	
creating a third secure container comprising a third rule set;	The third secure container is signed cabinet file in which the application developer placed licensed ActiveX. The third rule set is the license support code in the ActiveX control.	
copying said first portion of said first protected information;	Copying ActiveX control.	
transferring said copied first portion of said first protected information to	Transferring ActiveX control to signed cabinet file.	

1	said third secure container; and	
2	copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	The application developer places the signed cabinet file into its signed .msi file when it is packaging its application.
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5	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire ActiveX control is copied.
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7	93. A method as in claim 85 in which	
8	said step of copying transferring said copied first portion of said first protected information from said third secure container to said second secure container further comprises storing said third secure container in said second secure container.	The ActiveX control is placed in a cabinet file signed by the application developer and the signed cabinet file is placed in a .msi file signed by the application developer.
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	arrangement comprising a third set of controls and said first protected content file, and component governed by the set of declarative statements comprising the LicenseProviderAttribute (third set of controls).
said first secure container arrangement further comprises a fourth secure container arrangement comprising a fourth set of controls and a second protected content file.	The second alternative for the third secure container is a .NET component whose hash is included in the header of the .NET assembly. The set of declarative statements comprising the LicenseProviderAttribute is the third set of controls. The first alternative for the fourth secure container is another licensed and signed .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute (fourth set of controls). The second alternative for the fourth secure container is the container created when the hash of the .NET component is included in the header information of the .NET assembly. The set of declarative statements comprising the LicenseProviderAttribute is the fourth set of controls.

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3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>33. A data processing arrangement comprising at least one storing arrangement that at least temporarily stores a first secure container comprising first protected data and a first set of rules governing use of said first protected data,</p> <p>and at least temporarily stores a second secure container comprising second protected data different from said first protected data and a second set of rules governing use of said second protected data; and</p> <p>a data transfer arrangement, coupled to at least one storing arrangement, for</p>	<p>Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.</p> <p>The first protected information is the .NET component.</p> <p>The first alternate for the first secure container is the signed .msi file in which the .NET component developer packaged its .NET component. The first set of rules is the conditional syntax statements of the signed .msi file.</p> <p>The second alternative for the first secure container is a licensed and signed .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute of the .NET component (first set of controls).</p> <p>The third alternative for the first container is a signed cabinet file containing a (signed or unsigned) .NET component with license support. The first set of controls is the set of declarative statements comprising the LicenseProviderAttribute of the .NET component.</p> <p>The second protected data is the .NET assembly developer's assembly that includes/uses the .NET component.</p> <p>The first alternative for the second secure container is a signed .msi file in which the .NET assembly developer packaged its multi-file assembly (second protected data). The second set of rules is the conditional syntax statements of the signed .msi file that governs the offer/installation of the .NET assembly.</p> <p>The second alternative for the second secure container is a signed .NET assembly. The second set of rules is the declarative rules within the assembly's header.</p> <p>The third secure container is a signed .NET assembly governed by declarative rules in</p>
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<p>1 transferring at least a portion of said first 2 protected data and a third set of rules 3 governing use of said portion of said first 4 protected data to said second secure 5 container,</p>	<p>its header (third set of rules). An alternative third rule set is the set of declarative statements comprising the LicenseProviderAttribute. The .NET assembly includes the .NET component. The secure .NET assembly is included in a signed .msi file (second secure container).</p> <p>An alternative third secure container is the container created by hashing the .NET component and including the hash in the header information of a .NET assembly. The .NET component is included in the signed and governed .NET assembly (second secure container). The third set of rules is the set of declarative statements comprising the LicenseProviderAttribute.</p> <p>An alternative third secure container is a signed cabinet file containing the .NET component and which is destined for a signed .msi file (second secure container). The third set of rules is the set of declarative statements comprising the LicenseProviderAttribute.</p>
<p>14 <u>further comprising</u></p> <p>15 means for creating and storing, in said at least one storing arrangement, a third 16 secure container;</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p>	<p>The first alternative for the third secure container is a signed .NET assembly. In this case, the second secure container is the signed .msi file.</p> <p>The second alternative for the third container is the container created by including a hash of the .NET component in the header information of a .NET assembly. In this case, the second secure container is either the signed .msi file or the signed .NET assembly.</p> <p>The third alternative for the third container is a cabinet file signed by the .NET assembly developer containing the .NET assembly and/or the .NET component. In this case the signed .msi file is the second secure container.</p>
<p>24 said data transfer arrangement further 25 comprising means for transferring said 26 portion of said first protected data and 27 said third set of rules to said third secure 28 container, and means for incorporating said third secure container within said second secure container.</p>	<p>The first alternative for the third secure container is the signed .NET assembly, which includes and/or uses the licensed .NET component (first protected information). The third set of rules is a declarative rule within the .NET assembly's header. The .NET assembly is placed in a signed .msi file (second secure container).</p>

	<p>The second alternative for the third secure container is the container that results when the hash of the .NET component is added to the .NET assembly header information. The third set of rules is the set of declarative statements comprising the LicenseProviderAttribute added to the assembly.</p> <p>The third alternative for the third secure container is a cabinet file signed by the .NET assembly developer containing the .NET assembly and/or the .NET component. The third set of rules is a declarative rule(s) within the .NET assembly's header and/or the set of declarative statements comprising the LicenseProviderAttribute added to the assembly</p>
11 12 13 14 15 16	When the third rule set is the declarative statement(s) of the assembly header, the runtime CLR enforces the statements. When the third set of rules is the set of declarative statements comprising the LicenseProviderAttribute added to the assembly, the license support code in the .NET component evaluates the authenticity of the calling assembly's request.
17 18 19 20 21 22	When the second set of rules is the conditional syntax statements of the signed .msi file, the Windows Installer operating system service enforces the conditional syntax statements of .NET assembly's signed .msi file, which govern the offer/installation of the .NET component. When the second set of rules is the declarative statement(s) within the assembly's header, the runtime CLR enforces the statements.
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41.	Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR; and the Microsoft Installer technology.
7 8 9 10 11	<p>A method comprising performing the following steps within a virtual distribution environment comprising one or more electronic appliances and a first secure container, said first secure container comprising (a) a first control set, and (b) a second secure container comprising a second control set and first protected information:</p>
12 13 14 15 16	<p>The signed .msi file created by the .NET component developer is the first secure container. The first conditional syntax statement(s) of the .NET component developer's signed .msi file is/are the first control set.</p> <p>The first protected information is the .NET component.</p> <p>The first alternative for the second secure container is the signed and licensed .NET component. The second control set is the set of declarative statements comprising the LicenseProviderAttribute.</p> <p>The second alternative for the second secure container is a signed cabinet file. The second control set remains the set of declarative statements comprising the LicenseProviderAttribute.</p>
17 18 19 20 21 22	<p>using at least one control from said first control set or said second control set to govern at least one aspect of use of said first protected information while said first protected information is contained within said first secure container;</p> <p>The .NET component developer's conditional syntax statements (first control set) in its signed .msi file governs the offer/installation of the .NET component while it is in the signed .msi file.</p> <p>Alternately, the set of declarative statements comprising the LicenseProviderAttribute (second control set) of the licensed .NET component governs use of the .NET component.</p>
23 24 25 26 27 28	<p>creating a third secure container comprising a third control set for governing at least one aspect of use of protected information contained within said third secure container;</p> <p>The first alternative for the third secure container is a signed .NET assembly, the protected information is the .NET component and the third control set is the declarative statement(s) within the .NET assembly's header.</p> <p>The second alternative for the third secure container is a signed .msi file in which the .NET assembly developer packages its .NET assembly and the third control set is the conditional syntax statement(s) in the signed .msi file.</p>

1 incorporating a first portion of said first 2 protected information in said third secure 3 container, said first portion made up of 4 some or all of said first protected information; and	In the first alternative, placing the .NET component into the signed .NET assembly.
5 using at least one control to govern at least 6 one aspect of use of said first portion of 7 said first protected information while said 8 first portion is contained within said third 9 secure container.	In the second alternative, placing the .NET component into the .Net assembly developer's signed msi file.
10 42. A method as in claim 41, in which said 11 first secure container further includes a 12 fourth secure container comprising a fourth 13 control set and second protected 14 information and further comprising the 15 following step:	The second protected information is a second .NET component. The first alternative for the fourth secure container is the signed and licensed second .NET component. The fourth control set is the set of declarative statements comprising the LicenseProviderAttribute of the second .NET component.
16 using at least one control from said first 17 control set or said fourth control set to 18 govern at least one aspect of use of said 19 second protected information while said 20 second protected information is contained within said first secure container.	The .NET component developer's conditional syntax statements (first control set) in its signed .msi file governs the offer/installation of the second .NET component while it is in the signed .msi file.
21 47. A method as in claim 41, in which said 22 step of creating a third secure container 23 includes:	Alternately, the set of declarative statements comprising the LicenseProviderAttribute (fourth control set) of the licensed second .NET component governs use of the second .NET component.
24 creating said third control set by incorporating at least one control not found in said first control set or said second control set.	The .NET assembly developer's declarative statements (first alternative for third control set) and/or the developer's conditional syntax statements (second alternative for the third control set) are not found in either

	the first control set or the second control set.
52. A method as in claim 41 in which said step of creating a third secure container occurs at a first site, and further comprising:	
copying or transferring said third secure container from said first site to a second site located remotely from said first site.	The .NET assembly developer at first site distributes its assembly to other sites.
53. A method as in claim 52 in which said first site is associated with a content distributor.	The .NET assembly developer's business module is used to create and distribute its assembly.
54. A method as in claim 53 in which said second site is associated with a user of content.	The .NET assembly developer distributes the assembly to end-users.
55. A method as in claim 54 further comprising the following step: said user directly or indirectly initiating communication with said first site.	For Internet downloads, the user initiates the communication with the first site.
64. A method as in claim 54 in which said third control set includes one or more controls at least in part governing the use by said user of at least a portion of said first portion of said first protected information.	When the third control set is the .NET assembly developer's declarative statement(s) within the .NET assembly's header, it governs the user's use of the .NET component (first protected information). When the third control set is the .NET assembly developer's conditional syntax statements of the .NET assembly developer's signed .msi file, it governs the user's offer acceptance/installation of the .NET component (first protected information).
76. A method as in claim 41 in which said creation of said third secure container further comprises using a template which specifies one or more of the controls contained in said third control set.	When the third secure container is the .NET assembly developer's signed .msi file and the third control set is the conditional syntax statements in that file. Microsoft supplies several template .msi databases for use in authoring installation packages. The UISample.msi is the template recommended in the "An Installation Example" on MSDN. This template msi files contains several default conditional syntax statements. At least two of these conditional syntax statements directly govern the installation by blocking progress until the EULA is accepted.

1 2 3 4 5 6 7 8	When the third secure container is the .NET assembly developer's signed .msi file and the third control set is the conditional syntax statements in that file. Microsoft supplies several template .msi databases for use in authoring installation packages. The UISample.msi is the template recommended in the "An Installation Example" on MSDN. This template msi files contains several default conditional syntax statements. At least two of these conditional syntax statements directly govern the installation by blocking progress until the EULA is accepted.
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81.	Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.
<u>A data processing arrangement comprising:</u> a first secure container comprising first protected information and a first rule set governing use of said first protected information;	<p>The first protected information is the .NET component.</p> <p>The first alternative for the first secure container is the signed .msi file in which the .NET component developer packaged its assembly. The first rule set is the conditional syntax statements written by the .NET component developer and placed into the signed .msi file.</p> <p>The second alternative for the first secure container is the signed cabinet file containing the (signed or unsigned) .NET component. The set of declarative statements comprising the LicenseProviderAttribute when its developer added licensing support to the assembly is the first rule set.</p> <p>The third alternative for the first secure container is the licensed and signed .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute (first rule set) added by the .NET component developer.</p>
a second secure container comprising a second rule set;	<p>The first alternative for the second secure container is the signed .msi file in which the .NET assembly developer packaged its .NET assembly. The second rule set is the conditional syntax statements written by the .NET assembly developer and placed into the signed .msi file.</p> <p>The second alternative for the second secure container is the signed .NET assembly. The second rule set is the declarative statements in the .NET assembly's header.</p>
means for creating and storing a third secure container; and	<p>When the second secure container is the signed msi file, the third secure container is the signed .NET assembly.</p> <p>When the second secure container is the</p>

	signed .NET assembly, the third secure container a .NET component secured by placing it in a signed cabinet file or by including its hash in the header of the assembly.
means for copying or transferring at least a portion of said first protected information and a third rule set governing use of said portion of said first protected information to said second secure container, said means for copying or transferring comprising:	When the second secure container is the signed msi file and the third secure container is the signed .NET assembly, the third rule set is the set of declarative statements within the assembly's header.
means for incorporating said third secure container within said second secure container.	When the second secure container is the signed .NET assembly, the third rule set is the set of declarative statements comprising the LicenseProviderAttribute (third rule set) added to the .NET component by its developer.
82. A data processing arrangement as in claim 81 further comprising: means for applying at least one rule from said third rule set to at least in part govern at least one factor related to use of said portion of said first protected information.	When the second secure container is the signed msi file and the third secure container is the signed .NET assembly, the assembly is placed in the signed .msi file. When the second secure container is the signed .NET assembly and the third secure container is a .NET component contained in a signed cabinet file or a .NET component whose hash is included in the header of the assembly, the third secure container is incorporated within the .NET assembly.
83. A data processing arrangement as in claim 82 further comprising: means for applying at least one rule from said second rule set to at least in part govern at least one factor related to use of said portion of said first protected information.	When the third rule set is declarative statements within the assembly's header, it governs the use of the .NET assembly which includes the first protected information. When the third rule set is the set of declarative statements comprising the LicenseProviderAttribute added by the .NET component by its developer, it ensures the user is licensed.
	When the second rule set is the conditional syntax statements written by the .NET assembly developer and placed into the signed .msi file, it governs the offer/installation of the .NET component.
	When the second rule set is the declarative statements in the .NET assembly's header.

it governs the use of the .NET assembly, which includes the first protected information.

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4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	1 85. A method comprising the following steps: 2 creating a first secure container comprising a first rule set and first protected information; 3 storing said first secure container in a first memory; 4 creating a second secure container comprising a second rule set; 5 storing said second secure container in a second memory; 6 copying or transferring at least a first portion of said first protected information to said second secure container, said copying or transferring step comprising: 7 creating a third secure container comprising a third rule set; 8 copying said first portion of said	1 Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology. 2 The first protected information is the .NET component. 3 The first secure container is a signed .NET component (first protected information) governed by the set of declarative statements comprising the LicenseProviderAttribute (first rule set). 4 The second alternative for the first secure container is a cabinet file signed by the .NET component developer containing a (signed or unsigned) .NET component with license support. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute. 5 The first secure container is stored at the .NET component developer's location. 6 The first alternative for the second secure container is a signed .NET assembly and the second rule set is declarative statement(s) within the assembly's header. 7 The second alternative for the second secure container is the signed .msi file in which the .NET assembly developer packages its (signed or unsigned) assembly. The second rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file. 8 The second secure container is stored at the .NET assembly developer's location. 9 The .NET component developer packages its module in a signed .msi file for distribution to the .NET assembly developer's site. 10 The third secure container is the signed .msi file in which the .NET component developer packaged its .NET component. The third control set is the conditional syntax statements written by the .NET component developer and placed into the signed .msi file. 11 In preparation for using a msi authoring
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1	first protected information;	tool, such as Microsoft's Orca, copying the .NET component to a package staging area.
2	transferring said copied first portion of said first protected information to said third secure container; and	Using the msi authoring tool to import the .NET component into the signed .msi file.
3	copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	The .NET assembly developer installs the .NET component, which involves removing it from the .NET component developer's signed .msi file and installing it into its environment. Subsequently, the .NET assembly developer places the .NET component into its .NET assembly and/or signed .msi file when it is packaging its .NET assembly.
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9	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire .NET component is copied.
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12	89. A method as in claim 85 in which said first memory is located at a first site,	The first memory is located at the .NET component developer's site.
13	said second memory is located at a second site remote from said first site, and	The second memory is located at the .NET assembly developer's site.
14	said step of copying or transferring said first portion of said first protected information to said second secure container further comprises copying or transferring said third secure container from said first site to said second site.	The .NET component developer's signed .msi file is transferred from its site to the site of the .NET assembly developer.
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18	94. A method as in claim 85 further comprising:	
19	creating a fourth rule set.	When the second secure container is not a signed .NET assembly, the fourth rule set is declarative statements within the assembly's header.
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24		When the second secure container is not the signed .msi file in which the .NET assembly developer packages its (signed or unsigned) assembly, the fourth rule set is the conditional syntax statements written by the .NET assembly developer and placed into the signed .msi file.
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4 5 6 85 (alternate infringing scenario) 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	A method comprising the following steps: creating a first secure container comprising a first rule set and first protected information; storing said first secure container in a first memory; creating a second secure container comprising a second rule set; storing said second secure container in a second memory; copying or transferring at least a first	Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology. The first protected information is the .NET component. The first alternative for the first secure container is the signed and licensed .NET component. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component. The second alternative for the first secure container is a (signed or unsigned) .NET component with license support contained within a cabinet file signed by the .NET component developer. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component. The third alternative for the first secure container is the signed .msi file in which the .NET component developer packaged its assembly. The first rule set is the conditional syntax statements written by the .NET component developer and placed into the signed .msi file. The first secure container is stored at the .NET component developer's location. The first alternative for the second secure container is a signed .NET assembly and the second rule set is declarative statement(s) within the assembly's header. The second alternative for the second secure container is the signed .msi file in which the .NET assembly developer packages its (signed or unsigned) assembly. The second rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file. The second secure container is stored at the .NET assembly developer's location. The .NET assembly developer places the
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1	portion of said first protected information to said second secure container, said copying or transferring step comprising:	.NET component into the third secure container, which is either a signed cabinet file or a signed .NET assembly.
2	creating a third secure container comprising a third rule set;	When the second secure container is the signed .msi file, the third secure container is the signed .NET assembly. The third rule set is the declarative statement(s) in the .NET assembly's header.
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11	copying said first portion of said first protected information;	Copying the .NET component to either the .NET assembly or to the signed cabinet file.
12	transferring said copied first portion of said first protected information to said third secure container; and	Transferring the .NET component to either the .NET assembly or the signed cabinet file.
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14	copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	When the second secure container is the signed .msi file and the third secure container is the signed .NET assembly, the .NET assembly is placed into the signed .msi file.
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20	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire .NET component is copied.
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22	93. A method as in claim 85 in which said step of copying transferring said copied first portion of said first protected information from said third secure container to said second secure container further comprises storing said third secure container in said second secure container.	When the third secure container is the signed .NET assembly, it is placed in the signed .msi file.
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27	94. A method as in claim 85 further comprising:	
28	creating a fourth rule set.	When the second rule set is declarative statement(s) within the assembly's header,

	<p>the fourth rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file.</p> <p>When the second rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file, the fourth rule set is declarative statement(s) within the assembly's header or the set of declarative statements comprising the LicenseProviderAttribute in the .NET component.</p>
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<p>95. A method as in claim 94 further comprising:</p> <p>10 using said fourth rule set to govern at least one aspect of use of said copied first portion of said first protected information.</p>	<p>If the fourth rule set is the .NET assembly developer's declarative statement(s) within the .NET assembly's header, it governs the use of the .NET component.</p> <p>If the fourth rule set is the conditional syntax statements of the .NET assembly developer's signed .msi file, it governs the offer/installation of the .NET component.</p>
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4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	1 85 (second alternate scenario for .NET) 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	1 Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology. 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
	A method comprising the following steps: creating a first secure container comprising a first rule set and first protected information;	The first protected information is a .NET component. The first alternative for the first secure container is the signed and licensed .NET component. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component. The second alternative for the first secure container is a (signed or unsigned) .NET component with license support contained within a cabinet file signed by the .NET assembly developer. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component. The third alternative for the first secure container is a .NET component whose hash is included in the assembly header of a .NET assembly. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component.
	storing said first secure container in a first memory; creating a second secure container comprising a second rule set;	The first secure container is stored at the .NET assembly developer's location. The second secure container is the signed .msi file in which the .NET assembly developer packages its signed assembly. The second rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file.
	storing said second secure container in a second memory; copying or transferring at least a first portion of said first protected information to said second secure container, said copying or transferring step comprising:	The second secure container is stored at the .NET assembly developer's location. The .NET assembly developer places the .NET component into the third secure container, which is the signed .NET assembly.
	creating a third secure container comprising a third rule set;	The third secure container is a signed .NET assembly and the third rule set is

1		declarative statement(s) within the assembly's header.
2	copying said first portion of said first protected information;	Copying the .NET component to the .NET assembly.
3	transferring said copied first portion of said first protected information to said third secure container; and	Transferring the .NET component to the .NET assembly.
4	copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	When the second secure container is the signed .msi file and the third secure container is the signed .NET assembly, the .NET assembly is placed into the signed .msi file.
5	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire .NET component is copied.
6	90. A method as in claim 85 in which	
7	said first memory and said second memory are located at the same site.	First and second memory is at the .NET assembly developer's location.
8	93. A method as in claim 85 in which	
9	said step of copying transferring said copied first portion of said first protected information from said third secure container to said second secure container further comprises storing said third secure container in said second secure container.	When the third secure container is the signed .NET assembly, it is placed in the signed .msi file.
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 2 **INTERTRUST INFRINGEMENT CHART**
 3 **FOR U.S. PATENT NO. 5,915,019**

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	1 96. A method comprising performing the following steps within a virtual distribution environment comprising one or more electronic appliances and a first secure container, said first secure container comprising a first control set and first protected information: 2 using at least one control from said first control set to govern at least one aspect of use of said first protected information while said first protected information is contained within said first secure container; 3 creating a second secure container comprising a second control set for governing at least one aspect of use of protected information contained within said second secure container; 4 incorporating a first portion of said first protected information in said second secure container, said first portion made up of some or all of said first protected information; 5 using at least one control to govern at least one aspect of use of said first portion of said first protected information while said first portion is contained within said second secure container; and 6 incorporating said second secure container containing said first portion of said first protected information within a third secure container comprising a third control set.	1 A signed and licensed .NET component (first container) is part of a .NET assembly (second container), which is packaged in a signed .msi file (third container). 2 The first secure container is a licensed and signed .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute (one control). 3 The second secure container is a .NET assembly, the protected information is the assembly and the second control set is declarative statement(s) within the assembly's header. 4 Included in the .NET assembly is the .NET component. 5 The declarative statement(s) govern the use of the .NET component and the custom LicenseProvider class (first control set) controls the .NET component. 6 The third secure container is the signed .msi file in which the .NET assembly developer packages its assembly. The third control set is the conditional syntax statements written by the assembly developer and placed into the signed .msi file.
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 2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 3 INTERTRUST INFRINGEMENT CHART
 4 FOR U.S. PATENT NO. 5,949,876

5	2.	Infringement is based on Microsoft's Visual Studio .NET and/or the .NET Framework licensing tools (in the .NET Framework SDK) and/or Microsoft Installer SDK..
7	A system for supporting electronic commerce including:	
8	means for creating a first secure control set at a first location;	The first location is a .NET component developer's site. The first secure control set is the set of declarative statements comprising the <i>LicenseProviderAttribute</i> of a first .NET licensed component that provides for a design-time license to use the control. This attribute also specifies the type of license validation that occurs. The component is encapsulated in a signed .NET assembly.
12	means for creating a second secure control set at a second location;	The second location is the .NET application developer's site where a .NET application comprising one or more assemblies is created.
14		The second secure control set comprises the declarative statement(s) (including licensing statements, and code access security statements) of a signed .NET assembly using or calling the first .NET component. The control set can include a set of security permissions demanded by the .NET assembly containing the licensed component, whereby the permissions are demanded of components that call the application components. The control set can also be extended by controls expressed as conditional syntax statements in a signed .msi file containing a click through end-user license (the end-user license scenario).
21	means for securely communicating said first secure control set from said first location to said second location; and	The first .NET control set is securely communicated from the first location developer to the .NET solution provider by either being contained in a signed assembly, within a signed cabinet file or within a signed .msi file.
24	means at said second location for securely integrating said first and second control sets to produce at least a third control set comprising plural elements together comprising an electronic value chain extended agreement.	At the second location, the solution developer uses the .NET runtime that includes the LicenseManager. Whenever a class (control or component) is instantiated (here, an instance of the first .NET licensed component), the license manager accesses the proper validation mechanism for the control or component. A value chain is created through the creation of a run-time license for use of the first .NET component in the context of use of the .NET application developed at the second location. The

	<p>license controls for the runtime license (derived from the design time license) are bound into the header of the .NET application assembly, along with the second control set.</p> <p>The creation of runtime license controls is securely handled by Visual Studio.NET or the LC tool. Runtime licenses are embedded into (and bound to) the executing assembly. The license control attribute included in the first .NET component is customized in the second location to express and require the runtime license. In a different scenario, the LC tool is used to create a ".licenses file" containing licenses for multiple components, including runtime licenses for components and classes created by the license provider. This .licenses file is embedded into the assembly.</p> <p>The third control set is an extended value chain agreement that comprises the runtime license controls for the first .NET licensed class (that had been bound to the assembly), the declarative controls provided by the solution provider in the solution provider's assembly, and any runtime licenses for other components included by the solution provider in the solution provider's assembly, and any end user license agreement provided by the application provider. The controls are typically integrated into the header of the .NET application assembly calling the first .NET licensed component.</p> <p>A further "end user licensing scenario" occurs when, at the second location, the application developer packages the application into a signed .msi file that includes conditional syntax statement controls that require that a user read and agree to an end user license agreement for the application and the embedded first component. The third control set includes a plurality of elements that include the runtime licenses mentioned above, security permissions controls, EULA controls (a fourth control set), all securely bound into the signed .msi file.</p>
23 24 25 26 27 28	The Microsoft .NET Framework provides a Virtual Distribution Environment. Here the nodes are the Common Language Runtime instances that interpret the controls contained within .NET assemblies (among other functions).
29	The licensing control in the first control set specifies the method required to validate

1	terms.	the license.
2	32. A system as in claim 2 in which said second secure control set includes required terms.	The security permissions demanded (as described above) are required terms for execution of the application code elements.
4	60. A system as in claim 2 in which said means for securely integrating said first and second control sets includes a fourth control set.	In the scenario where the application assembly is distributed using a signed .msi file, the secure integration of the first and second control sets is enhanced by the tamper protection afforded by the signed .msi file. In the end user license scenario, a fourth control set consisting of conditional syntax statements is included in the .msi file.
9	130. A system as in claim 2 further including means for executing said third control set within a protected processing environment.	The third control set is executed under the auspices of the CLR.
12	132. A system as in claim 130 in which said protected processing environment is located at a location other than said second location.	The third control set is executed at an end-user site within the CLR.
14	161. A system as in claim 2 in which said third control set includes controls containing human-language terms corresponding to at least certain of the machine-executable controls contained in said third control set.	In the end user license scenario, the third control set includes a fourth control set that requires that the human user agree with license terms displayed to the user. These human readable terms are referenced in the conditional syntax statement controls contained in the signed .msi file.
18	162. A method as in claim 161 in which said human-language terms are contained in one or more data descriptor data structures.	The .msi file is a data descriptor data structure.
20	170. A system as in claim 2 in which said means for creating a first secure control set includes a protected processing environment.	The creation of the first licensed component, including its licensed controls is carried out under the auspices of the CLR.
23	171. A system as in claim 2 in which said means for creating a second secure control set includes a protected processing environment.	The application design time environment and the creation of the .NET application is carried out under the auspices of the CLR.
26	172. A system as in claim 2 in which said means at said second location for securely integrating includes a protected processing environment.	The means for integrating the runtime license with the application controls is carried out under the auspices of the CLR.
28	329. A system as in claim 2 in which said	VS.NET runs under Windows.

1	means for creating a first secure control set includes an operating system based on or compatible with Microsoft Windows.	
2	330. A system as in claim 2 in which said means for creating a second secure control set includes an operating system based on or compatible with Microsoft Windows.	VS.NET runs under Windows.
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6	331. A system as in claim 2 in which said means at said second location for securely integrating said first and second control sets includes an operating system based on or compatible with Microsoft Windows.	VS.NET runs under Windows.
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9	346. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one load module.	The third control set in the scenario described in the claim map for claim 2 governs a portable .NET executable designed to be loaded into the CLR environment (a CLR host).
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12	347. A system as in claim 2 farther comprising means by which said third control set governs the execution of at least one method.	The third control set in the scenario described in the claim map for claim 2 governs a .NET executable. This executable contains one or more methods.
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15	349. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one procedure.	The third control set in the scenario described in the claim map for claim 2 governs a .NET executable. This executable contains one or more procedures.
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1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,112,181

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
48.	Infringing products include Microsoft SMS (Systems Management Server) 2.0 and subsequent versions.
A method for narrowcasting selected digital information to specified recipients, including: a) at a receiving appliance, receiving selected digital information from a sending appliance remote from the receiving appliance,	The <i>receiving appliance</i> is the client (e.g., end user computer in an Enterprise setting) receiving <i>digital information</i> (packages and/or advertisement files) from the <i>sending appliance</i> , the centralized SMS database via a Client Access Point and/or Distribution Point set up on a server.
the receiving appliance having a secure node and being associated with a specified recipient;	The “node” is “secure” as a result of SMS security, as well as how it identifies and selects clients. The “specified recipient” is the result of the <i>collection</i> identifying a specific client that meets the criteria for a package or advertisement.
i) the digital information having been selected at least in part based on the digital information’s membership in a first class, wherein the first class membership was determined at least in part using rights management information; and	The <i>digital information</i> is a software package or advertisement. The “ <i>first class membership was determined in part using rights management information</i> ” reads on creating software packages (or advertisements) based on attributes of the software.
ii) the specified recipient having been selected at least in part based on membership in a second class, wherein the second class membership was determined at least in part on the basis of information derived from the specified recipient’s creation, use of, or interaction with rights management information; and	The “specified recipient” is the client selected to receive a package or advertisement. That recipient is chosen based on a collection rule, or on the recipient’s possession of a license.
b) the specified recipient using the receiving appliance to access the received selected digital information in accordance with rules and controls, associated with the selected digital information.	The <i>receiving appliance</i> is the client computer. The SMS agents on the client computer receive, evaluate and take the appropriate action based on <i>rules and controls</i> governing the package and/or advertisement (i.e. the <i>selected digital information</i>).
the rules and controls being enforced	Rules and controls are enforced by Agents on

1	by the receiving appliance secure node.	the client (<i>the secure node</i>)
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3	59. The method of claim 48 wherein 4 said received selected digital information is at least in part event 5 information.	Event information includes SMS event information, including <i>Scheduling Classes</i> .
6	63. The method of claim 48 wherein said received selected digital information is at least in part executable 7 software.	All SMS packages must include a minimum of one program.
8	70. The method of claim 48 wherein said rules and controls at least in part govern usage audit record creation.	A control governs whether a MIF (management information file) is sent back to the SMS db after installation is done to report on the success or failure of the installation.
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10	89. The method of claim 48 wherein said receiving appliance is a personal computer.	The primary purpose of SMS is to manage software on personal computers throughout the Enterprise.
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48.		Infringing products include Windows Media Player and Windows Media Rights Manager
A method for narrowcasting selected digital information to specified recipients, including:		This claim pertains to Windows Media Player with Individualized DRM Client and Windows Media Rights Manager used in the context of a narrowcast pay-per-view (hear) media distribution service., simulcast and/or subscription services.
(a) at a receiving appliance, receiving selected digital information from a sending appliance remote from the receiving appliance, the receiving appliance having a secure node and being associated with a specified recipient		Receiving appliance is a user's PC with individualized DRM client (secure node). Specified recipient is a user using the specific individualized DRM client to access and render narrowcast pay-per-view media, simulcast and/or subscription services for which the user acquires a license.
(i) the digital information having been selected at least in part based on the digital information's membership in a first class, wherein the first class membership was determined at least in part using rights management information; and		The digital information is media that is narrowcast to licensed recipients. These narrowcast streams are licensed to users who have acquired licenses and whose PCs (appliances) support WMPs that have individualized DRM clients. This attribute is included in the signed WMA file header and is used in the process of acquiring licenses for access to the media. Media that are licensed to the recipient have their licenses bound to the recipient's Individualization module.
(ii) the specified recipient having been selected at least in part based on membership in a second class, wherein the second class membership was determined at least in part on the basis of information derived from the specified recipient's creation, use of, or interaction with rights management information; and		The recipient is selected for this content based on the fact that the recipient is a member of the class of recipients who have a license for the narrowcast media and whose devices support WMP and individualized DRM clients. The recipient's machine must indicate support for individualization in challenges that are sent as part of requests for media in this narrowcast class.
(b) the specified recipient using the receiving appliance to access the received selected digital information in accordance with rules and controls, associated with the selected digital information, the rules and controls being enforced by the receiving appliance secure node.		Recipient's machine uses WMP and the individualized DRM client to access the narrowcast media in accordance with all rules associated with the media and contained in the media license – in particular, requirements that individualization be supported.

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	CLAIM LANGUAGE										CLAIM OF INFRINGEMENT											
2	61. The method of claim 48 wherein said received selected digital information is at least in part entertainment information.										The digital information is Windows Media, which encodes audio/visual entertainment content.											
3	62. The method of claim 61 wherein said entertainment information is at least in part music information.										Reads on narrowcast Windows Media Files that are music or audio/visual.											
4	67. The method of claim 48 wherein said rules and controls at least in part use digital certificate information.										The license contains a digital certificate. The DRM client uses the certificate in the license to verify this signature and to verify that the header has not been tampered with.											
5	72. The method of claim 48 wherein said rules and controls in part specifying at least one clearinghouse acceptable to rightsholders.										The signed header contains at least one URL that indicates to the Windows Media Rights Manager the license clearinghouse to be used in acquiring licenses.											
6	75. The method of claim 72 wherein said at least one acceptable clearinghouse is a rights and permissions clearinghouse.										This clearinghouse is a license clearinghouse responsible for mapping rights and permissions onto requested content or narrowcasts and binding them to the requesting client environment or user of this environment.											
7	89. The method of claim 48 wherein said receiving appliance is a personal computer.										Windows Media Player and the Individualized DRM client run on a personal computer.											
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 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,112,181

3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	91 A method for securely narrowcasting selected digital information to specified recipients including: (a) receiving selected digital information in a secure container at a receiving appliance remote from a sending appliance, the receiving appliance having a secure node, the receiving appliance being associated with a receiving entity (i) the digital information having been selected at least in part based on the digital information's membership in a first class, (ii) the first class membership having been determined at least in part using rights management information (b) the receiving entity having been selected at least in part based on said receiving entity's membership in a second class. (i) the second class membership having been determined at least in part on the basis of information derived from the recipient entity's creation, use of, or interaction with rights management information (c) receiving at the receiving appliance rules and controls in a secure container, (i) the rules and controls having been associated with the selected digital information; and (d) using at the receiving appliance the selected digital information in accordance	Infringing products include Windows Media Player and Windows Media Rights Manager This claim pertains to Windows Media Player with Individualized DRM Client and Windows Media Rights Manager used in the context of a narrowcast simulcast, pay-per-view (hear) media distribution service, and/or subscription services. The content is delivered in a Protected Windows Media File. Narrowcast content is received in a Protected Windows Media File. Receiving appliance is user's PC with individualized DRM client (secure node). The digital information is media that is narrowcast to licensed recipients (for example, a sold-out concert is narrowcast on the Internet to "the class of" licensed (or ticketed) viewers). These narrowcast streams are licensed to users who have acquired licenses and whose PCs (appliances) support WMPs that have individualized DRM clients. This attribute is included in the signed WMA file header and is used in the process of acquiring licenses for access to the media. Media that are licensed to the recipient have their licenses bound to the recipient's individualization module. The recipient is selected for this content based on the fact that the recipient is a member of the class of recipients who has a license for the narrowcast media. The recipient class is determined by the license bound to the user's device that supports WMP and individualized DRM clients. The recipient's machine must indicate support for individualization in challenges that are sent as part of requests for media in this narrowcast class. Receives a protected Windows Media File Receives a license that is bound to the file as well as to the specific DRM client individualization information. Recipient's machine uses WMP and the individualized DRM client to access the
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1	with the rules and controls,	narrowcast media in accordance with all rules associated with the media and contained in the media license – in particular, requirements that individualization be supported.
2	(i) the rules and controls being enforced by the receiving appliance secure node.	The WMP and DRM client enforce the rules embedded in the Protected Windows Media File License.
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4	104. The method of claim 91 wherein said received selected digital information includes entertainment information.	The digital information is Windows Media, which encodes audio/visual entertainment content.
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6	109. The method of claim 91 wherein said rules and controls at least in part use digital certificate information.	The license contains a digital certificate. The DRM client uses the certificate in the license to verify this signature and to verify that the header has not been tampered with.
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8	114. The method of claim 91 wherein said rules and controls specify at least one clearinghouse acceptable to rightsholders.	The signed header contains at least one URL that indicates to the Windows Media Rights Manager the license clearinghouse to be used in acquiring licenses.
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11	117. The method of claim 114 wherein said at least one acceptable clearinghouse is a rights and permissions clearinghouse.	This clearinghouse is a license clearinghouse responsible for mapping rights and permissions onto requested content or narrowcasts and binding them to the requesting client environment or user of this environment.
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14	131. The method of claim 91 wherein said receiving appliance is a personal computer.	Windows Media Player and the individualized DRM client run on a personal computer.
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1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,389,402

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
1.	Products infringing: Microsoft Visual Studio .NET, .NET License Compiler, .NET Framework SDK, and .NET Common Language Runtime
A method including	A method for producing a third .NET component (application) that incorporates first and second .NET component whose distribution is license controlled.
creating a first secure container including a first governed item and having associated a first control;	The <i>first secure container</i> is a first signed .NET component that includes a license control. The <i>governed item</i> is the .NET component. The <i>first control</i> is the set of declarative statements comprising the LicenseProviderAttribute of a first .NET licensed component that provides for a design-time license to use the control. This attribute also specifies the type of license validation that occurs.
creating a second secure container including a second governed item and having associated a second control;	The <i>second secure container</i> is the second signed .NET component that includes a license control. The <i>governed item</i> is the .NET component. The <i>second control</i> is the set of declarative statements comprising the LicenseProviderAttribute of a second .NET licensed component that provides for a design-time license to use the control. This attribute also specifies the type of license validation that occurs.
transferring the first secure container from a first location to a second location;	The creator distributes a signed and licensed .NET component. An application developer at a second location downloads a first .NET component for inclusion into an application.
transferring the second secure container from a third location to the second location;	A creator distributes a signed and licensed .NET component from a different location. Application developer downloads a second .NET component for inclusion into an application.

1 2 at the second location, obtaining access to at least a portion of the first governed item, the access being governed at least in part by the first control; 3 4 5 6 7 8 9	At the <i>second location</i> , the application developer uses the .NET runtime that includes the LicenseManager to access a <i>first governed item</i> . Whenever a class (control or component) is instantiated (here, an instance of the first .NET licensed component), the license manager accesses the proper validation mechanism for the control or component. The <i>first control</i> comprises the declarative statement(s) (including licensing statements, and code access security statements) of the first .NET component.
10 at the second location, obtaining access to at least a portion of the second governed item, the access being governed at least in part by the second control; 11 12 13 14 15 16	At the <i>second location</i> , the application developer uses the .NET runtime that includes the LicenseManager to access a <i>second governed item</i> . Whenever a class (control or component) is instantiated (here, an instance of the second .NET licensed component), the license manager accesses the proper validation mechanism for the control or component. The <i>second control</i> comprises the declarative statement(s) (including licensing statements, and code access security statements) of the second .NET component.
17 at the second location, creating a third secure container including at least a portion of the first governed item and at least a portion of the second governed item and having associated at least one control, the creation being governed at least in part by the first control and the second control. 18 19 20 21 22 23 24 25 26 27 28	At the <i>second location</i> , the application developer uses the .NET runtime that includes the LicenseManager to access a <i>first governed item</i> and <i>second governed item</i> to construct an application, the <i>third secure container</i> . <i>Creation governance</i> is accomplished by invoking the .NET runtime to access the <i>first governed item</i> and the <i>second governed item</i> . Whenever a class (control or component) is instantiated the license manager accesses the proper validation mechanism for the control or component. The <i>portions</i> of the first governed item and second governed item that are being included in the third secure container will typically include the governed items themselves, ie. the .NET components. The <i>associated control</i> in this case is the LicenseProviderAttribute, created and inserted into the application.